FEEDSTUFFS

The Weekly Newspaper for the Feed Industry

Volume 32—Number 42 | OCTOBER 15, 1960 | 1 Year $5, 2 Years $8

Nutrena Associated With New Egg Project in Tennessee

MEMPHIS — Nutrena Mills, Inc., headquartered in Minneapolis, is associated with a new "agri-business" egg producing and marketing venture which was announced this week by a Memphis grocery wholesaler. The wholesaler and associated food retailers have invested in the project.

The total program anticipates 300,000 layers. This will include 90,000 in a large operation in which the food interests have invested. In addition, independent producers in the area will take part in the program, which calls for marketing up to 70 million extra fancy fresh eggs yearly.

The new branded, quality egg venture was begun here this week by

(Turn to EGG PROJECT, page 99)

Maple Leaf Milling Complex Destroyed

PORT COLBORNE, ONTARIO — Damage has been estimated at as high as $10 million and one life was lost as a result of a fire Oct. 7 which destroyed four plants of Maple Leaf Milling Co., Ltd., here. Destroyed were a 500 ton per day feed manufacturing plant, the largest flour mill in the British Commonwealth, a rye mill and a bag plant of a subsidiary firm, according to Graham MacLachlan. executive vice president.

The firm's current plans call for constructing a new smaller $4 million flour mill here. It is expected this mill would have a capacity of 6-7 000 cwt. per 24-hour day as compared with the former 26.000 cwt.

(Turn to MAPLE LEAF, page 99)

Purina, German Firm Form Feed Concern

ST. LOUIS—Formation of a new West German feed manufacturing firm by Ralston Purina Co. and Kraftfutterwerk Brand, GmbH, has been announced by Donald Danforth, Ralston Purina board chairman.

Under the terms of the agreement, the Ralston Purina Co. furnishes its experience in the feed manufacturing industry together with new and additional capital. The "Brand" company will provide the assets and experience of a long-established West German feed company. The joint

(Turn to PURINA, page 103)

To Study Whether Hazards to Workers In Handling Additives

WASHINGTON — The U.S. Public Health Service is planning a preliminary survey of feed manufacture to determine if occupational hazards to employees exist in the handling of feed additives, particularly cattle feed additives.

Feed industry officials have been told that a detailed study of plant operations will be made in three middle western feed mills, probably beginning in mid-November. The first study is scheduled to start in Iowa. Employees will be given physical

(Turn to HAZARDS, page 99)

AAFCO Hears Proposal For Label Simplification

By FRED TUNKS
Feedstuffs Staff

WASHINGTON—A quality control official of a large feed manufacturer suggested here this week at the annual convention of the Association of American Feed Control Officials that the ingredient list be dropped from formula feed labels so that the industry could make better use of linear programming.

He said such action could be accomplished to the satisfaction of feed control authorities, feed manufacturers and feeders through registration of an expanded ingredient list for each feed.

Warren A. Armstrong, quality control and formulation manager, Nutrena Mills, Inc., Minneapolis, stimulated considerable thought and comment throughout his audience of some 250 state and federal officials and feed industry representatives when he remarked:

"We (Nutrena) believe the specific, inflexible ingredient list has outlived its usefulness in the complex situation the industry must cope with today."

He said compliance with state feed control regulations has presented one of the most challenging areas connected with linear programming. Feed labeling requirements, Mr. Armstrong indicated, oppose efficient utilization of least-cost formulation.

"It isn't what the tag says that determines how well a feed performs and how successful a company becomes. The test is the requirement that the manufacturer sets for each

(Turn to AAFCO, page 102)

● ● ●

Definition Changes Okayed by AAFCO

WASHINGTON — The Association of American Feed Control Officials this week adopted official ingredient definition changes and additions which will become effective Jan. 1. This approval was granted by AAFCO's membership at its annual convention here in the Shoreham Hotel Oct. 11-13 following a presentation of recommendations outlined by the executive committee and based upon the reports of sub-committees and investigators.

Definition alterations involve antibiotics, chemical preservatives, corn products, cottonseed products, drugs, fats and oils, grain sorghums, linseed and flax products, marine products, mineral feeds, molasses, peanut products, rice products, screenings, soybean products, vitamins, wheat products, enzymes and other ingredients.

As recommended by the medicated

(Turn to DEFINITIONS, page 103)

● ● ●

Urges Acceptance Of Responsibilities In Feed Control

WASHINGTON — The feed industry and feed control agencies were challenged to accept their respective responsibilities in regulating the manufacture and marketing of formula feeds by W. E. Glennon, president of the American Feed Manufacturers Assn., in a guest address here during the annual convention of the American Association of Feed Control Officials.

He said industry and government

(Turn to RESPONSIBILITIES, page 103)

What Makes Farmers Buy?

Feed Buying Preferences Studied

MANHATTAN, KANSAS — For feed dealers, when it comes to selling feed to farmers, it is not just who you are or what brand you handle—location is of major importance, and services also are significant in determining farmers' feed buying practices.

These, at least, are some of the indications in a report on a survey of feed buying preferences made by Richard J. Herder, agricultural economist at Kansas State University. The results of the study have just been published.

The survey report indicated that location in relation to farmers and their nearby shopping community is a major factor in feed buying. It also was emphasized that farmers want more than just feed; several related services are considered. Brand was said to have importance but to be of less importance than the dealer him-

(Turn to FEED BUYING, page 105)

Spencer Kellogg 4th Quarter Net Rises; Feed Gains Cited

BUFFALO — Spencer Kellogg & Sons, Inc., reports that its fourth quarter income showed an increase over a year earlier. However, net income for the fiscal year ended Aug. 27 was down from the previous 12 months.

Net profit in the latest quarter rose to $347,826, equal to 28¢ a share,

(Turn to FOURTH QUARTER, page 99)

FEEDSTUFFS *Features This Week*

VITAMIN A—Results of a vitamin A test with laying hens and pullets are reported on **page 18.**

BARLEY FOR HOGS—"Barley as a hog feed is definitely competitive to corn," reports a college scientist. **Page 28.**

NEW MILL—An Illinois mill conducted a market survey before building its custom mill operation. **Page 44.**

MERCHANDISING—An Oregon firm tells how it has built sales by serving ranchers with big cattle operations on **page 60.**

ADVERTISING—The first in a series of articles on how feed men advertise starts on **page 84.**

—REGULAR FEATURES—

Putting Research to Work	20	Worth Looking Into	68
Joe Brooks	22	Convention Calendar	72
Feed Control Comment	66	Feed Markets in Detail	100

In Range Cattle Country

Protein Blocks Creating Minor Revolution

By MARTIN E. NEWELL
Feedstuffs Staff

KANSAS CITY — You don't read about it in the feeding textbooks or hear about it on the programs of nutrition conferences, but a little 8½ x 8½ x 11½ inch block of feed is creating a minor revolution in range cattle feeding practices in the West. In many areas these so-called protein blocks appear to be growing in popularity among cattle feeders who have problems of distant or inaccessible ranges, who are pinched by help shortages, or who are just a mite lazy.

In the cattle country you can get all range of theories as to the economics of protein block feeding, and there are all manner of opinions about it. These views stretch from those who see a permanent and growing place for the protein block in the future to the other extreme of those who call it a passing fad and fancy which will soon fade away. And there are lots of opinions in between.

But regardless of this crystal gazing, there is no denying the solid fact that more protein blocks are being sold this year than ever before and that numerous feed mills in the West, and particularly in the Southwest, are in the process of investing substantial money in equipment to manufacture this type of feed.

A year ago you could count on your fingers the number of firms manu-

(Turn to PROTEIN BLOCKS, page 6)

FEEDSTUFFS®

The Weekly Newspaper for the Feed Industry

Published by THE MILLER PUBLISHING CO.
2501 Wayzata Blvd., Minneapolis, Minn.
Address Mail to: Box 67, Minneapolis 40, Minn.
Telephone FRanklin 4-5200 - All Offices Serviced by Bell System Teletype

EDITORIAL STAFF—George L. Gates, Editor; Roger Bergiund, Managing Editor; Fred E. Tunks, News Editor; John Cipperly, Washington Correspondent; Emmet J. Hoffman, Merchandising Editor; James E. Sharon, James H. Ross, William A. Bentzin, James K. Rutter and Russell Tolcheim, Editorial Assistants.

WASHINGTON CORRESPONDENT—John Cipperly, 604 Hibbs Building, Washington, D. C., Telephone, Republic 7-8534.

ADVERTISING STAFF—Wilfred E. Lingren, Advertising Director; Carl R. Vetter, Advertising Department Manager; Bruce A. Kirkpatrick, Advertising Production Manager; Leland C. Hubert, Assistant Advertising Production Manager; R. Dale Swenson, Promotion Manager.

BUSINESS STAFF—Milton B. Kihlstrum, President and Treasurer; Wilfred E. Lingren, Executive Vice President; Don E. Rogers, Vice President; Paul L. Dittemore, Vice President; Donald G. Neth, Secretary; James S. Barden, Marketing and Research Director; Harry M. Dunn, Jr., Circulation Fulfillment Manager; James G. Patrick, Assistant Treasurer; Richard L. Ostlund, Office Manager; Walter O. Buchkosky, Production Superintendent.

ADVERTISING REPRESENTATIVES—SOUTHWEST, Martin E. Newell, Manager; Thomas E. Leich, Assistant Manager, 612 Board of Trade Bldg., 1005 Wyandotte St., Kansas City 5, Mo. (Tel. Victor 3-1350); EASTERN STATES, Paul L. Dittemore, Manager; James W. Miller and Archy S. Booker, Jr., Room 1101, 52 Vanderbilt Ave., New York 17, N. Y. (Tel. Oregon 9-2490); CENTRAL STATES, Don E. Rogers, Manager; Robert M. Harrison and Amos W. Standish, 2832 Board of Trade Bldg., 141 W. Jackson Blvd., Chicago 4, Ill. (Tel. Harrison 7-0515); NORTHWEST, Paul A. Anderson and Wayne M. Soule, P. O. Box 67, Minneapolis 40, Minn. (Tel. Franklin 4-5200); WESTERN STATES, The Maurice A. Kimball Co., Inc., 2550 Beverly Blvd., Los Angeles 57, Cal. (Tel. Dunkirk 8-6178); The Maurice A. Kimball Co., Inc., 681 Market St., San Francisco 5, Cal. (Tel. Exbrook 2-3365).

Correspondence regarding subscriptions, changes of address, etc., should be sent to Circulation Manager, Feedstuffs, Box 67, Minneapolis 40, Minn. Single copies 50¢. Subscription rates: One year $5, two years $8, in the U.S., U.S. possessions, Canada and Pan-America. Add $2 a year for postage to other countries. Readers are urged to give prompt notice of change of address and to anticipate future changes by at least three weeks' advance notice. Ask postman for form 22-8. Feedstuffs accepts subscriptions only through its own offices; no subscription solicitors are employed or recognized. Associated publications: The Northwestern Miller, The American Baker, Milling Production, Croplife, Farm Store Merchandising, Feedlot and Professional Nursing Home. Second-class postage paid at Minneapolis, Minn.

ABC AUDITED PAID CIRCULATION — NEP

The regional circulation of this issue is concentrated in the southeastern states

Top of the Hopper

A QUESTION THAT has been intriguing to many citizens for some time came up during the Feed Production School question and answer session. It was this (in case you missed it in Feedstuffs' Oct. 1 report of the session): "Can a veterinarian prescribe that a certain drug be added to a feed and mixed to his prescription? The drug may be one with which the feed man is unfamiliar. What if a veterinarian says that 2 lb. of a certain product should be added to a feed but the mill does not have FDA clearance on using it?"

The FDA official said that if there is a "bona fide doctor-patient relationship" and a veterinarian prescribes a drug for a specific flock for a specific disease, it is not illegal.

Thus, it appears that while feed manufacturers are severely restricted in the matter of including certain combinations of ingredients in feeds, pending proper clearance of such combination uses, such combinations presumably can be used if ordered on a veterinarian's prescription. The FDA official warned, however, that any attempt to use such a prescription as a "subterfuge" would be frowned upon. The apparent fine line of interpretation in this area provides another illustration of complexity of FDA's current administration of the food additive law.

THERE ARE UNLIMITED opportunities for export trade in turkeys, Nicholas Turkey News reports, with the European market just now finding out how good and economical U.S. turkeys are. Size and quality are important from the standpoint of small ovens and consumer acceptability. "Assuming that every increase in export is not promptly met with increased production, a 5% increase in exports would improve our economy 10 to 20%," the News states. "We have from 5 to 10 years of good export business before breeders will be established in Europe."

EXPORT OPPORTUNITIES for poultry meat on the other side of the world apparently aren't as promising as they are in Europe—at least so far as Japan is concerned. A group of Japanese agricultural leaders touring the U.S. under auspices of the Feed Grain Council indicated that Japan is interested only in stepping up its own production of poultry products. The group consequently showed intense interest in streamlined U.S. production methods and scientific data relating to nutrition and management practices.

With the very limited amount of arable land available for field crops, grain production is largely restricted to food grains. Rice and fish have been staple foods for centuries in Japan, but fishing now is running into both poorer catches and restrictions placed by neighboring nations on fishing waters, according to Morihisa Emori, a representative of the Mitsubishi firm, who is with the delegation. Also, wheat products are gradually replacing rice in the cereal food category. The modern, more intensive methods of producing poultry appear to be an answer to both high protein food needs and better opportunities for Japanese farmers.

A PROMINENT feed company nutritionist commented recently that because of current Food and Drug Administration restrictions he can put to use only 50% of the nutrition knowledge he possesses.

A WISCONSIN FEED company is promoting its product with a slogan, "Contains No Poisonous Cancer-Producing Drugs or Ingredients." A folder

(Turn to TOP OF THE HOPPER, page 99)

How's Business?

AN EVERY WEEK REVIEW OF FORMULA FEED BUSINESS VOLUME, INCLUDING PRICE, SUPPLY AND DEMAND TRENDS

Several factors tended to restrict formula feed sales in some areas during the week—such as turkey slaughtering and heavy soybean harvesting activity. But these are regarded as temporary. All the ingredients of prosperity in the business seem to be present, and for the most part sales held up at the levels of the previous week. The hog-corn ratio, based on Chicago prices, advanced to 16.2 this week compared to 15.7 last week and 10.8 a year ago. The wholesale feedstuff price index moved up to 72.9 from 72.4 last week, compared to 79.1 a year ago. The feed-grain index declined to 61.9, compared with 62.1 the previous week and 64.4 a year earlier. (Feed markets in detail on pages 100-102.)

Northwest

Sales of formula feeds went into a decline last week following a healthy increase the previous week. Feed men are putting the "blame" on unusually clear, balmy weather which has farmers moving full steam ahead with bean harvesting. As a result, they are giving less attention to their feeding operations. It is generally felt that a few days of rain would bring orders pouring in.

Several manufacturers noted that turkey feed demand has been slowing down as a result of marketings of early birds, but otherwise all types of feed have been moving in about the same proportion as the previous week.

The soybean oil meal price dropped about another $2, prompting some talk of a possible lowering of formula feed prices. Alfalfa meal is holding steady but on a market that is not very firm. Meat and bone meal prices weakened $1-2, but millfeeds showed a $1-2 increase.

Southwest

The tempo of feed business picked up in the Southwest this week. Some areas have experienced dry conditions which have developed good demands for feeds, mainly cattle feeds. Mixers report 5-day runs for the most part, with some finding it necessary to run six days to stay current with orders.

Current prices on formula feeds along with feeding ratios were an incentive on the part of some users to increase inventories. Layer feeds were showing improvement. Hog feeds and cattle feeds are reported moving well. Bookings of cattle feed for fall months' delivery have been heavy and interest continues. Some trade sources advised that dairy feed sales have picked up and are helping total volume.

Costs on formula feeds were indicated to be slightly higher as sharp increases in millfeeds and lesser increases in other ingredients tended to influence prices. Upward trends were held nominal as protein meals such as soybean meal were showing weakness.

Central States

As the month of October inches along and the midway point is being approached, volume of business in commercial mixed feeds seems to have been just a little off the mark set during early September, although this situation can be easily rectified by Nov. 1 as the deficiency is not at all a heavy one.

Like the week immediately preceding, the current one has found a few plants skipping an occasional day or less on the production line, as the direct result, of course, of a less aggressive demand. Backlogs of the size which all plants would like to enjoy seem hard to "come by."

The country is definitely "cursed with an abundance" of feed grains, and the official crop report as of Oct. 1 not only calls for step-ups of better than fair size in the prospect for both corn and grain sorghum crops over a month ago, but in addition, indicates that farm stocks of feed grains Oct. 1 were 18% larger than a year ago, a situation which cannot help but throw at least a little cold water on hopes for any immediate broad-scale improvement in demand for formula feeds.

Hog prices are moving higher again with a top of $18.75 on October 12 at Chicago. By itself, this is an encouraging sign, but at the same time, it must be realized that higher "pork on the hoof" prices are not necessarily caused in full by a willingness of the housewife to pay more for the finished product, but also stem from the hog population situation back in the country.

Ohio Valley

Sales of all types of formula feeds this week continued at the good level noted a week earlier, without any significant volume changes being reported. As a result, manufacturing plant activities remained steady on a 40-hour basis.

Harvesting of the corn crop is now getting underway, and with ideal fall weather forecast to mid-October, it is expected that harvesting of the bumper crop will proceed rapidly. Whether the field work will result in an increase in formula feed sales is not yet indicated but, naturally, feed manufacturers are hopeful.

After several weeks of rising prices for eggs and poultry at area wholesale markets, there was a price leveling off this week as supplies proved sufficient for retail requirements, but without carryovers.

Northeast

Turkey slaughtering put a dent in formula feed sales, and running time of feed manufacturers was shaded a little as tonnage slipped below the previous week.

Dairy feeds accounted for the bulk of the sales turnover, with heavy emphasis on concentrates to mix on the farm. Despite an exceptionally sunny and warm October, a growing number of dairy farmers prefer to hold their cows in the barn.

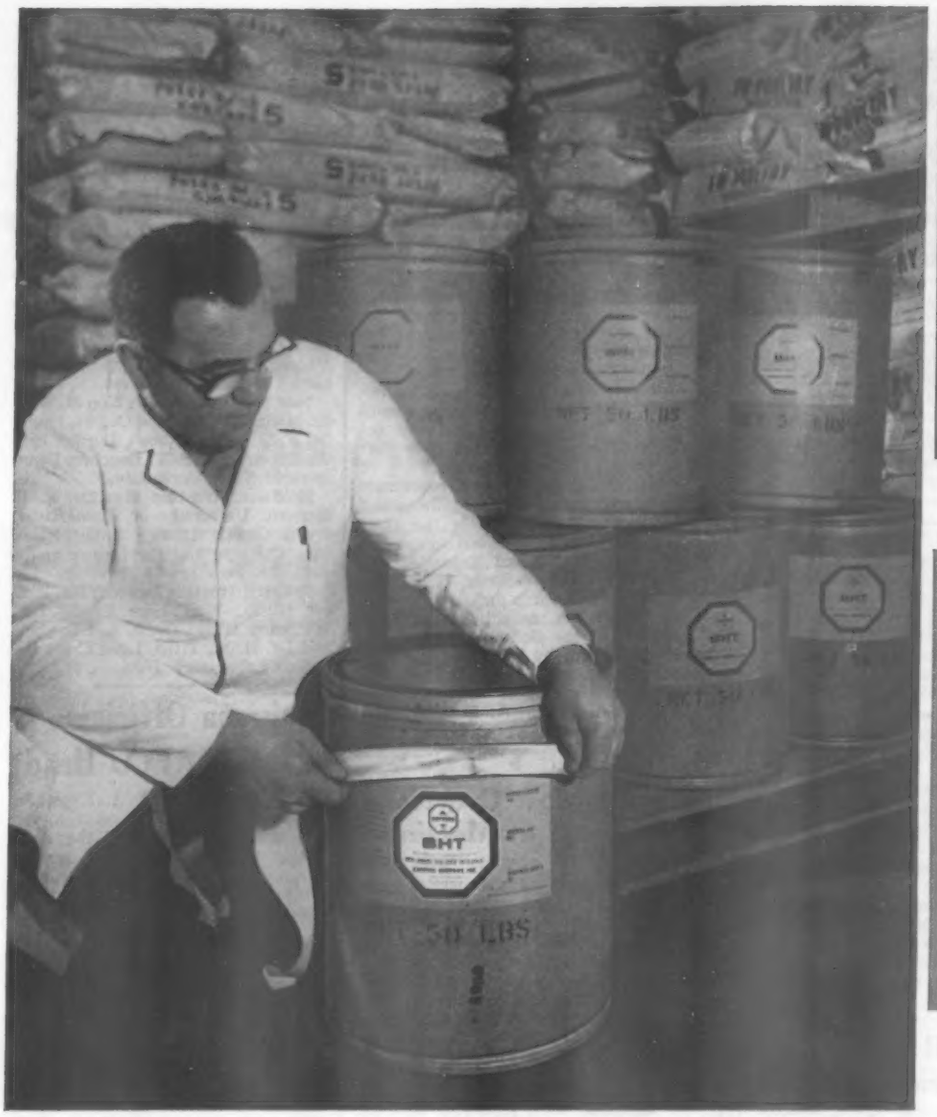
Egg mashes had to contend with a drop in the egg market. Prices slumped from 3 to 5¢ doz. in some instances as the recent high levels met consumer resistance. On-the-farm prices of Grade A or better eggs in the western New York area declined to 50½@53¢ doz. from 55½@58¢ in the preceding week.

Broiler feeds, in the low-point of their season, just tagged along.

Southeast

Broiler feed business continues to be reported as being fairly good, even though broiler prices in the leading southern states remain at the year's

(Turn to MARKETS, page 105)



Strict standards of potency and product uniformity are maintained at all times through the efforts of the modern quality control laboratory at the Peter Hand Foundation.

Now Has Improved Vitamin A and D_3 with even greater stability. Peter Hand F-W Turkey is a special formulation of vitamins, antibiotics, anti-oxidents and unknown growth factors. Other formulations available for broilers, swine and ruminants.

Peter Hand's "RED TAPE" saves you time, trouble and money

The men in the Processing Department at Peter Hand won't take *anybody's* word for the quality of the ingredients they use. They put every incoming container in "quarantine" for a while.

The Quality Control Director takes samples of each ingredient for assay. He then seals the container with a distinctive *red tape*. This red tape cannot be removed—and therefore the ingredient cannot be used—until the assay is received and approved. Then, and only then, "quarantine" is lifted and the ingredient moves out to the production floor.

Our red tape procedure is a *100% inspection* at Peter Hand. Because of it we can guarantee that every shipment we make to you meets the high specifications that have been established. Every premix, every vitamin, every fortifier, every medication.

We're as cost-conscious as the next company. But we won't cut price if it means cutting any useful service, such as our "red tape." We don't believe you'd want us to. After all, this is probably the only "red tape" that saves you time instead of eating it up. That smoothes your operations instead of building obstacles. That brings your costs down instead of sending your blood pressure up.

Look for the answer first Peter Hand *from Peter Hand Research*

PETER HAND FOUNDATION

1000 North Avenue, Chicago 22, Illinois • 130 Howell Street, Dallas 7, Texas

At Northeast Meeting

Need for Efficient, Effective Poultry, Egg Promotion Noted

SYRACUSE, N.Y. — The need for more efficient, effective and profitable poultry and egg promotion and marketing was stressed here at the annual exposition and convention of the Northeastern Poultry Producers Council.

The three-day event featured scores of exhibits lining two floors of the auditorium, a continuous round of educational programs for egg, broiler and turkey producers and a beauty pageant to select a poultry princess to reign over NEPPCOland.

Hints on management and marketing were given to poultrymen at the round of educational sessions built around the theme, "Chart Your Poultry Future." Poultry experts from colleges in the 14-state area participated in the discussions. A general tone of optimism prevailed over the sessions in the wake of better prices for poultry and eggs this year after a disastrous 1959.

The exhibits also were tied closely to the exposition theme as the latest in technology to make poultry farming more efficient and profitable was displayed for convention visitors.

The convention was NEPPCO's first in Syracuse since 1956. Next year's meeting will return to Harrisburg, Pa., site of the 1959 convention. It will be held Oct. 3-5.

Summaries of some of the talks on the program follow:

PRODUCE, PRESENT AND PERSUADE—A national program to persuade consumers to buy eggs was urged by Ted Royal, J. Walter Thompson Co., New York.

Keying his talk to three "p's"—produce, present and persuade—Mr. Royal proposed a national program, possibly through the Poultry and Egg National Board, with brand name selling to promote sales of eggs across the country.

He cited the breakfast food and meat industries as examples of industries which have increased their returns by persuading consumers.

He praised the industry's work in brightening up cartons, but lamented that eggs are not receiving their fair share of display space in supermarkets. He noted that dairy foods receive less than one third of the display space given to frozen foods, although dairy products account for 10% of the profits while frozen foods account for only 9%.

Mr. Royal noted the steady improvement in quality, but said this has been without a parallel in price return. He attributed this to the industry's failure to present its product adequately and to persuade consumers of the advantages of eggs.

He suggested a checkoff of 1¢ a dozen on all cartoned eggs to finance an egg promotion campaign. He said that, in the Northeast alone, such a checkoff would provide at least $4 million a year.

Brand-name promotion builds consumer faith and should become part of a national program to increase egg consumption, Mr. Royal said.

MARKETS TO CONQUER — A five-way program of education and research by the Poultry and Egg National Board to increase eggs' share of the grocery market was reported by Ralph J. Thomas, PENB president.

Mr. Thomas listed:

"Launching of a positive program to combat the cholesterol scare and others of a similar nature.

"Continued emphasis on more research to get bullets (or findings) to meet the attack of our enemies—cancer, cholesterol, etc.

"Development and the launching of an organized educational program primarily for the youngsters in school.

"Preparation of more merchandising or point-of-sale materials for use by our members and their food outlets.

"Attainment of our million dollar goal to help plug holes in our present program and to get on the offensive in this battle for our share of this $80 billion grocery market."

Mr. Thomas listed among the new

(Turn to NEPPCO, page 102)

• • •

Carroll Dunham Heads Northeast Poultry Unit

SYRACUSE, N.Y. — Carroll Dunham, poultry producer of Southbury, Conn., was named president of the Northeastern Poultry Producers Council at the organization's annual convention.

Mr. Dunham, who has served as the association's vice president during the past year, houses some 35,000 laying hens on his Pierce Hollow Farm.

Named vice president was Oscar Turner, Livermore, Me., official delegate to the council from the Maine Poultry Improvement Assn.

Russell Sturtevant, Halifax, Mass., was reelected secretary, with J. C. Weisel, Rosemont, N.J., re-named treasurer. Chosen directors-at-large were Robert Thurrell, E. Wolfeboro, N.H., and Ernest F. Smith, Jr., Kenton, Del., outgoing president.

NEW OFFICERS—Newly-elected officials of the Northeastern Poultry Producers Council clasp hands in an expression of unity as a signal of preparation for an expanded industry program of the year ahead. In the picture, left to right, are: Richard I. Ammon, executive secretary; J. C. Weisel, Rosemont, N.J., treasurer; Ernest F. Smith, Jr., Kenton, Del., outgoing president and a director at large; Carroll Dunham, Southbury, Conn., new president; Oscar Turner, Livermore, Me., vice president, and Russell Sturtevant, Halifax, Mass., secretary.

14 State Poultry Unit Secretaries Organize

SYRACUSE, N.Y. — Secretaries of eight state-wide poultry associations in the Northeast agreed on a new approach to regional cooperation in the industry here last week with the formation of a "Secretaries' Circle."

Brought together by Richard I. Ammon, executive secretary of the Northeastern Poultry Producers Council, the eight will form the nucleus of a 14-state association of secretaries of state poultry groups.

In an effort to foster greater cooperation and unity among the 14 state-wide poultry associations, the secretaries will exchange a round-robin of newsletters, will swap minutes of their meetings and will get together in annual meeting each year at the NEPPCO Exposition.

NEPPCO, which will coordinate the new approach at "togetherness," sponsored a program for the state secretaries which included an analysis of "Egg Pricing and Reporting" by Dr. Alfred Van Wagenen, NEPPCO's director of research and development, and a talk on the activities and expansion of the Southeastern Poultry & Egg Assn. by the group's executive secretary, Harold E. Ford. Mr. Ammon keynoted the meeting with a welcome by Ernest F. Smith, Jr., Kenton, Del., NEPPCO president.

• • •

Name Most Courteous Salesmen at Meeting

SYRACUSE, N.Y. — Three sales representatives of commercial firms exhibiting at the exposition of the Northeastern Poultry Producers Council (NEPPCO) were honored at the organization's annual banquet.

Singled out as the most courteous, friendly and helpful were William Baker, Kitson Poultry Equipment Co., Morley, Mich.; Dick Nuttar, Pilch's Poultry Breeding Farm, Hazardville, Conn., and Joseph Seabold, McMillen Feed Mills, Ft. Wayne, Ind.

All three were presented with engraved plaques by Carroll Dunham, Southbury, Conn., NEPPCO president.

The outstanding salesmen were picked by five "mystery shoppers" who had toured the exposition hall during the first two days of the show.

S. E. Event Seen as First of Regional Production Schools

KANSAS CITY—When the Feed Production School, Inc., opens up its southeast regional session at Athens, Ga., Oct. 23-25, it will be something of a test. If the reaction is favorable to this attempt to "put the production school on wheels," then it will become an annual event in that area and may result in similar regional sessions in other parts of the country, according to Lloyd Larson, Kansas City, president of the school organization.

"The prime purpose of the feed school is to bring important manufacturing information to the feed industry," Mr. Larson said. "We believe more feed people can take advantage of this information if it comes to them regionally as well. The cooperation of the industry in the Southeast has been splendid, and reports of advance enrollment have been most encouraging."

Sessions will be held at the University of Georgia, and the Southeastern Poultry & Egg Assn. is assisting in sponsoring the event.

The program (complete details of which were reported in Feedstuffs earlier) will include talks on grain storage, bin flow, reducing costs, materials handling, food additive amendments, quality control, liquid handling, pelleting and other topics.

Speakers will include college authorities and industry experts from the Southeast and other areas.

Dr. Ames Elected ANRC Chairman

WASHINGTON — Dr. Stanley R. Ames, Distillation Products Industries, Rochester, N.Y., is the new chairman of the Animal Nutrition Research Council. He was elected to head the council's board of trustees at the annual ANRC meeting here this week. He succeeds Dr. Douglas Frost, Abbott Laboratories, North Chicago, Ill.

Dr. D. E. Becker, University of Illinois, is vice chairman, succeeding Dr. Ames. Philip H. Derse, Wisconsin Alumni Research Foundation, was renamed secretary-treasurer.

New trustees are: Dr. Ken H. Maddy, Monsanto Chemical Co., St. Louis; Dr. F. W. Quackenbush, Purdue University, and Dr. R. V. Boucher, Pennsylvania State University.

Hold-over trustees are: Dr. E. P. Singsen, University of Connecticut; Irwin Olcott, Dawe's Laboratories, Inc., Chicago, and the former chairman, Dr. Frost.

Retiring trustees include: Dr. Walter Glista, Wirthmore Feeds, Inc., Waltham, Mass.; Dr. J. A. Campbell, and Dr. H. W. Titus, Lime Crest Research Laboratory, Newton, N.J.

Louisiana Official Is New AAFCO Head

WASHINGTON—E. A. Epps, Jr., of Louisiana was advanced from vice president to president of the Association of American Feed Control Officials, Inc., at the group's annual convention here this week at the Shoreham Hotel. He succeeds Marvin H. Snyder of West Virginia.

Other new AAFCO officers are C. R. Phillips, Ottawa, Canada, vice president, and B. W. Southall of Virginia, treasurer. Bruce Poundstone of Kentucky continues as secretary.

Named to the executive committee were M. Elmer Christensen of Utah and Henry De Salvo of Arkansas. Other members include the immediate past president, Mr. Snyder; R. E. Bergman of Minnesota; R. W. Ludwick of New Mexico, and the AAFCO officers.

A new ruling of the association designates that the president also automatically serves as chairman of the executive committee.

Mr. Snyder, outgoing president, was presented a plaque signifying his service to the association by Ralph Kneeland, Food and Drug Administration.

Delmarva Broiler Prices Increase

SALISBURY, MD.—Broiler prices improved last week, averaging 15.87¢ lb. at the farm in Delmarva. The week before the price was 15.28¢, and a year ago the price was 15.18¢.

Nationwide, for 22 reporting states, hatcherymen set 40,830,000 eggs. This was 1% above the previous week and 14% above the corresponding week a year ago. Settings were up from the previous week in 11 of the 22 states. States for which sizeable increases were reported include North Carolina, Arkansas, California and Pennsylvania.

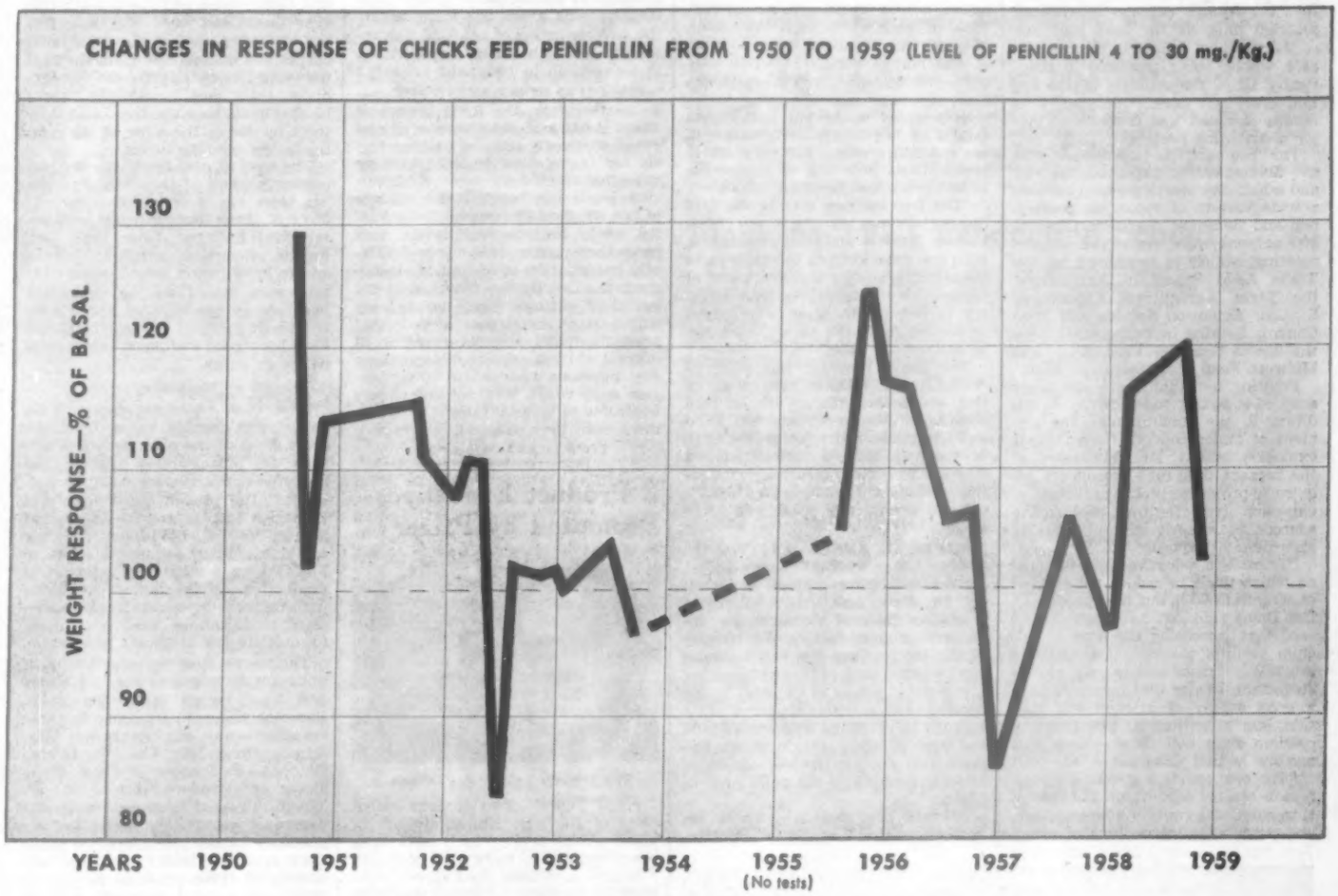
Chick placements in the 22 states totaled 28,261,000 broiler chicks. This was 1% below the previous week but 15% above the corresponding week a year ago.

Salesman Dies

ANOKA, MINN. — Benjamin T. Overbaugh, 54, salesman for Maney Bros. Mill & Elevator Co., Inc., Minneapolis, died unexpectedly of a heart attack while duck hunting Oct. 8. Several of his sons were with him at the time. Mr. Overbaugh had been employed by the Minneapolis firm for 35 years.

HAVE "EXPERIENCED" ANTIBIOTICS LOST THEIR PUNCH?

This chart says "NO, they haven't!"



For conclusive evidence of the *continuous* beneficial effects of PENICILLIN *over a 10-year span*, look at the above chart. These results, demonstrated by 63 poultry ration tests over the past decade, were reported by D. A. Heth, H. R. Bird and M. L. Sunde, Univ. of Wisconsin, at the Informal Poultry Nutrition Conference (Chicago, April 10, 1960).

After 10 years, PRO-PEN *(procaine penicillin)* still tops all other antibiotics in tonnage...economy...*effectiveness!*

Highly effective PRO-PEN is the *most economical* supplement you can buy. No other antibiotic can match its combination of low cost and high performance in stimulating growth and promoting efficient feed conversions in both poultry *and* swine rations.

GRAM FOR GRAM—the cost per ton of fortifying poultry and swine rations is lower with procaine penicillin than with all other antibiotics—broad- or narrow-spectrum. Call your Merck Feed Products Representative today. Ask him for our latest quotations on PRO-PEN to help *reduce your antibiotic inventory . . . cut your antibiotic costs!*

Merck Chemical Division, Merck & Co., Inc., Rahway, N. J.

For assured stability, uniformity and quality

PRO-PEN® MERCK

Best Fallout Protection Foods Cited at Texas Nutrition Event

By MARTIN E. NEWELL
Feedstuffs Staff

COLLEGE STATION, TEXAS — Milk, meat and eggs are the best protective foods against human accumulation of radioactive fallout, Dr. George K. Davis of the University of Florida, told the annual Texas Nutrition Conference Oct. 5-7 at Texas A&M College here. Although there is considerable public apprehension about consumption of milk for fear of contamination with strontium-90 (one of the radioactive elements from nuclear explosion fallout), Dr. Davis said that milk "buffers" between humans and the radioactive isotopes which descend on soils.

This public misunderstanding, he said, probably arises from the fact that the Atomic Energy Commission selected milk as the best indicator of the status of fallout in the country as a whole, being produced in practically all of the counties of the nation every day during the year. It is readily sampled, and it comes to major distribution centers.

The radioactivity discussion was the first scientific paper on the two and a half day meeting which covered a wide variety of topics on poultry, hog and ruminant nutrition. Close to 300 persons were registered at the meeting, which is sponsored by the Texas A&M School of Agriculture, the Texas Agricultural Experiment Station, Extension Service and Feed Control Service in cooperation with the Texas Grain & Feed Assn. and Midwest Feed Manufacturers Assn.

Pointing out that there are other sources of cosmic radioactivity, in addition to the strontium-90, the element of major concern from nuclear explosion fallout, Dr. Davis said at the present time milk consumers acquire approximately 125 millirems of exposure from natural radioactive sources as against 5.5 millirems of strontium-90 exposure.

"There is a selective process going on which tends to reduce the amount of strontium-90 in our food products," Dr. Davis said. "It has been discovered that increasing the level of calcium permits plants and animals to selectively discriminate against strontium. Plants that normally have a good supply of calcium will contain less strontium-90 per gram of calcium than will those plants that are low in that mineral.

"The cow exerts a strong discrimination against strontium. Because of this, milk will contain approximately one-seventh the percentage of strontium that was in the feed. The high concentration of calcium in milk results in the human exerting a discriminating factor so that the actual level of strontium deposited in bone will be less when coming from milk than from other foods.

"An even better picture can be shown for meat. This is because approximately 90% of the retained strontium-90 in the diet of meat animals will be deposited in their bones. Eggs, too, are a protective food. The high level of calcium in the diet of laying hens and the fact that almost all strontium-90 passed on to the egg will be in the shell, guarantees that eggs, as we eat them, will be low in fallout radioactivity.

"In the event of increased radioactive fallout, there are special features of feeds which may make them of prime importance in the protection of the human population. The very nature of manufactured feeds means that they are maintained in warehouses which would not accumulate fallout as do pastures or feeds which are not under cover. The very act of placing feed in a bag or bin serves to add protection from fallout.

"The feed business may be the first line of defense in the event of a nuclear disaster and, in the meantime, with due consideration to problems of maintaining quality and low levels of radioactivity in feeds, the feed industry is helping to produce the best protective foods the human race has at the present time."

The Texas program this year included several talks on mineral nutrition and several discussions on feed additive status under current Food and Drug Administration policy. Other speakers covered various aspects of poultry diseases, roughage utilization, turkey nutrition, laying hen diets and several hog production problems.

MINERAL AVAILABILITY — Dr. George Davis also discussed various factors influencing mineral availability. Dr. Davis said that requirement levels for mineral elements are dependent on many factors. While many of the interactions and interferences can be taken care of by incorporating a margin of safety in the diet, it has become increasingly apparent that balance is of prime importance and too large a safety margin of one element may depress the availability of another element to the point of deficiency.

"It has been noted by many investigators that animals fed relatively high levels of protein appear to be able to utilize mineral element intakes that result in either deficiency or toxicity symptoms with lower levels of protein. A specific example of this exists in the case of copper and molybdenum where with high levels of protein a molybdenum toxicity can be produced only with great difficulty, where as with low levels of protein the presence of even small amounts of molybdenum may result in the development of a severe copper deficiency syndrome. Protein also exerts its protective action against such situations as high levels of copper or zinc.

"One of the most important factors with respect to the availability of mineral elements in the digestive tract is the ratio of these elements to calcium and the absolute amount of soluble calcium present in the diet. High calcium to phosphorus ratios have a much less disastrous effect, especially if adequate quantities of phosphorus are available to meet the requirements which are increased by the adverse action of calcium. The ratio appears to be much more critical in swine than in ruminant animals."

CALCIUM FOR LAYING HENS— In another talk, Dr. R. E. Davies of Texas A&M said that the use of elevated or greatly reduced calcium levels for laying hens appears to have value for specific purposes. High calcium levels may be applicable in cases of hot weather decline and shell quality, while low calcium levels may have therapeutic uses where antibiotic potentiation is of immediate advantage. Dr. Davies found that removal of calcium from the diet resulted in an immediate drop in egg production and alternate feeding of normal and low calcium diets at three day intervals resulted in a production drop which was not completely overcome a month after the treatment had been stopped. In experi-

(Turn to TEXAS, page 103)

TEXAS CONFERENCE — Several of the speakers at the Texas Nutrition Conference are shown here. From the left, they are: Dr. H. E. Bechtel, director, technical service and development, Dawe's Laboratories, Inc., Chicago; Henry L. Jones, Uncle Johnny Mills, Houston; Dr. L. A. Underkofler, director enzymology research laboratory, Miles Chemical Co., Clifton, N.J.; Dr. H. O. Kunkel, department of animal husbandry and biochemistry and nutrition, Texas A&M College; Dr. George K. Davis, research professor of nutrition, University of Florida, Gainesville, Fla.; Dr. W. Brady Anthony, animal husbandry and nutrition department, Auburn University, Auburn, Ala.; Dr. I. W. Rupel, head, dairy science department, Texas A&M College, and Dr. R. E. Leighton, dairy science department, Texas A&M College.

2 Product Executives Promoted by Pfizer

P. J. Connolly A. E. Wilson

NEW YORK—Two product executives of the agricultural division of Chas. Pfizer & Co., Inc., have been promoted to new sales staff positions.

Albert E. Wilson, feed supplements product manager for Pfizer, has been advanced to field sales manager—feed supplements. Patrick J. Connolly, animal health products manager, has assumed new duties as senior product manager, with responsibility in the feed supplement, animal health and veterinary product fields.

Mr. Wilson joined Pfizer as vitamin A product manager in 1952. Prior to that, he served as assistant sales manager of National Alfalfa Co. for six years.

Mr. Wilson was previously employed for 10 years by the Ralston Purina Co. and its subsidiary—the alfalfa company. He was a business administration major at Kansas University.

Mr. Connolly joined Pfizer in 1954 and was originally assigned to the eastern regional sales force as a sales representative. He later advanced to the position of feed supplement supervisor for the eastern region.

In 1958, Mr. Connolly joined the Pfizer headquarters group in New York as animal health products manager. Before joining Pfizer, he was employed with the insecticide division of S. B. Penick & Co.

Mr. Connolly is a graduate of the U.S. Merchant Marine Academy, class of 1943.

PROTEIN BLOCKS

(Continued from page 1)

facturing protein blocks—and most of the output was coming from five big producers who have been primarily engaged in the mineral block business for some years.

Today there are at least eight others now in production and at least 12 more firms have equipment ordered or being installed and will be producing very shortly. Possibly the number is even greater than this, if all the facts were known.

New plants have been reported this year in California, Texas, Oklahoma, Missouri, Nebraska, Utah, Montana and Alberta, Canada, with the most numerous installations in Texas and Nebraska.

At this point it might be helpful to make a distinction between those firms which produce protein blocks and those which sell them. Until this year there have been few producers but numerous sellers. In fact, most cattle feed manufacturers in the past few years have had blocks for sale under their own brands, but these blocks have been custom made for them by one or the other of the relatively few manufacturers.

The rash of new firms entering the production end of the block business has been due to several factors: (1) Most of these firms already have established business under their own brands on custom purchased blocks and so have tested their market; (2) some new manufacturing equipment has become available at lower cost; (3) profit margins on protein blocks have been good and much better than on range cubes.

Machinery

First, for the machinery. The blocks are formed on a hydraulic press. Most of the older plants, which grew out of salt block and mineral block production, were costly installations. The presses were large and expensive and the output was rather low. These installations probably would start at around $75,000 to $100 000 for a substantial amount of production. In the larger companies with multiple presses many home-devised modifications have been made to multiply and automate production.

The newer type presses that most mills are buying now are less costly and have better production rates. Business seems to be going to three manufacturers of equipment: Hydraulic Press Mfg. Co., Mt. Gilead, Ohio; A. E. Johnson & Sons, Elgin, Texas, and Landers Machine Co., Ft. Worth, Texas. Prices depend on the degree of automation, and other accessories for the most part and range from around $40,000 for a completely automatic cycle press to as low as $8,000 for a hand operation without special equipment. Each press has certain features which the manufacturer stresses, of course, but fundamentally the feed enters a molding chamber and is compressed by a ram. The HPM and Johnson presses are vertical, the Landers press operates at a 45° angle.

Most of the presses being bought by feed manufacturers now are the 75-ton size, although 100-ton presses are available. A 75-ton press exerts 150,000 lb. pressure on the block.

Capacity ratings of the manufacturers range from 100 to 300 blocks per hour, a rate of one to five per minute. This will vary with the type of machine, the kind of material being pressed and the ability of the feed manufacturer to gear his operations to the performance of the press.

These machines produce a block measuring 8½ x 8½ x 11½ inches usually, although they can be adjusted to other lengths. The edges are beveled and the blocks customarily weigh approximately 33⅓ lb., so that 60 blocks compose a ton of feed This is almost the same size as the average mineral block, which weighs 50 lb.

Most protein blocks on the market

AFMA GATHERING FARM MIXING DATA

CHICAGO — The American Feed Manufacturers Assn. is gathering basic data concerning on-the-farm feed milling in preparation for subsequent issuance of educational materials. This was pointed out in an association membership bulletin this week.

The AFMA said it would appreciate hearing from members on the farm-mixing problem and receiving materials prepared on the subject.

Mention of the preparation of the basic data was made in an AFMA mailing which also included texts of talks by Oakley Ray of AFMA and Erwin Wascher of Honeggers' & Co. at the Feed Production School. (Summarized in Feedstuffs, Oct. 1.)

AFMA noted, among other things, that in some reports full costs of on-farm milling have not been considered and that full consideration may not be given to feed quality. The importance to both the feed manufacturer and the producer in having full information on both sides of the question was cited.

today vary from 36% to 39% protein, although doubtless there are some lower protein blocks sold, too. A typical state feed control "tag" might read as follows:

Crude protein, not less than .... (This includes not more than 14.5% equivalent protein from non-protein nitrogen)	37.0%
Crude fat, not less than	1.0%
Crude fiber, not more than	7.0%
Calcium (Ca), not more than ...	6.0%
Calcium (Ca), not less than ...	5.0%
Phosphorus (P), not less than ..	1.0%
Iodine (I), not less than	0.012%
Salt (NaCl), not more than	13.5%

Ingredients: Cottonseed meal, salt, feeding cane molasses, dicalcium phosphate, urea, peanut meal, soybean oil meal, corn gluten feed, grain sorghum, gluten feed, spent bone black, calcium carbonate, iron oxide, steamed bone meal, sulphur, dolomitic limestone, manganese sulphate, vitamin A feeding oil, antibiotic feed supplement (source of oxytetracycline hydrochloride and chlortetracycline hydrochloride), iron sulphate, wheat germ meal, irradiated yeast, copper sulphate, potassium iodide, and cobalt carbonate.

Prices and Margins

As to margins, the price of blocks has ranged from about $90 ton f.o.b. to as high as $120 at certain times and places in the past year. Inevitably there has been a tendency for prices to slide as production has increased and the lower end of the range represents more nearly the current price most places. There are price variations, of course, based on freight costs, too. Some areas have not had producing plants nearby and thus have had to get higher prices to cover the shipping expense from the production point. The $90 price today compares with range cubes in the spread of $52 to $60, depending on quality, which represents a substantial difference even at today's reduced block prices.

Why is the cattle feeder willing to pay the difference?

Apparently, the convenience of block handling is the major reason. The block is a labor-saving device. In most areas where cattle are on range, there are many relatively inaccessible pastures to which it is a real chore to haul feed, especially in bad weather. The rancher can cut down the number of trips he needs to make to these out of the way places, saving the wear and tear on his truck and his anatomy. Generally speaking, a cattleman might put out sufficient blocks for one to five head of cattle per block calculating the supply to provide sufficient feed for three days to a week, depending on what feeding practices he is following and how much protein per head per day he wants to provide.

Also in some parts of the country, there is a breed of "week-end" cattlemen. These feeders live in a town and have a job there which keeps them occupied all day, but they have a few cattle on the "home farm" or a rented pasture. When the week end comes they load up the automobile luggage compartment or a pickup truck with protein blocks and do the week's feeding chores in one trip.

The range sheep raiser likewise is a prospect for blocks and there has been some demand develop from breeders raising show horses.

There is a problem of controlling the daily intake of the animals in this feeding system. This is limited by the hardness of the block and also in some cases by a high salt content which tends to restrain consumption. Apparently this works to the satisfaction of those who are feeding the blocks.

Hardness

You can get varying ideas on how hard protein blocks should be. If they are too hard the animals will not be able to get enough feed and there is danger of tooth breakage and excessive tooth wear, particularly in the case of sheep. If the block is too soft, it will break in rough handling and also the animals will eat too much. The manufacturer tries to steer between these two hazards. It is a matter of experience in production, since the blocks harden somewhat during the "curing" time after molding. For all its durability, a protein block is a soft block compared with a mineral or salt block, which is meant for licking, although lately there has also been a tendency to make salt blocks softer, too.

That is why most protein blocks are being wrapped, sacked or put in cartons. Most producers are wrapping them. The blocks must carry the state feed label, of course. A wrapped block of the degree of softness that the manufacturer desires will chip during the rough handling that the block often gets, and having the block packaged saves feed and saves customer complaints, too.

Popularity

How much protein block business now exists is hard to determine. There is a great variation between one area and another. In some sections, feed manufacturers say, blocks have become so popular that half or more of the range feed business is in this form. In other areas there is no demand at all as yet. Most people who might be in a position to know, who will venture a guess on the subject, think that the protein block volume over-all is still less than 10% of the range cube business. But undoubtedly it runs higher than this in certain areas.

How far will the trend toward block production go? Most cattle feed manufacturers wish they had the answer. It would make life a little simpler.

Recently one Texas feed manufacturer made a very complete survey of the protein block outlook in his area, with the thought that he might get into this kind of production. He said he found 22 mills in the state which were either buying or contemplating buying protein block equipment. Now, he himself is uncertain whether to enter the field as he thinks it might soon get "a little overcrowded"—at least temporarily.

The rate at which new presses are added probably is going to depend on the premiums these blocks bring. Assuming production costs on the blocks no greater than that on range cubes, the current $30 a ton difference on sales of 1,000 tons will pay for a $30,000 installation. So, the incentive is rather great. Furthermore, those who are making blocks now have not had much trouble getting custom block business from other feed manufacturers who do not have equipment, and this has been a source of building volume over a wide area. These possibilities, of course, grow more limited as new presses come into operation, but at this stage the potential still is important. One manufacturer who is installing a press has commitments from 11 other feed firms to custom make blocks for them.

If margins in protein blocks shrink and shipping areas are narrowed by more local production points, the rate of expansion certainly will slow down. Most of those who are making blocks expect these conditions, but they feel that the protein block has a definite and important place in cattle and sheep raising (and possibly in the dairy and turkey feeding, too), and they are confident that they can make their operations efficient enough to make a profit under the same kind of conditions that exist for any other type of feed.

PRODUCTION SCHOOL COMMITTEE—Before the 1960 Feed Production School in Kansas City (Feedstuffs, Oct. 1) was even over, plans already were being developed for the 1961 school, to be held Sept. 11-13. Pictured here are 1961 Production School committee members who will head various subcommittees. Front row, left to right, are Will Brooks, Illinois Farm Supply Co.; Roger Berglund, Feedstuffs; Eric Carlson, Ralston Purina Co., 1961 chairman; Oak Smith, Wenger Mixer Mfg. Co., who will be 1962 chairman; Jerry Karstens, Feed Age, and Stanley Juscen, Wirthmore Feeds, Inc. Second row, Lloyd Larson, president of Feed Production School, Inc.; Harry Pfost, Kansas State University; C. Hew Chandler, Consumers Cooperative Assn.; Robert Wornick, Chas. Pfizer & Co., Inc.; V. John Brensike, USDA; Ted Stivers, T. E. Stivers Co., and Lou Bosso, Feed Production School, Inc. Not pictured is Andrew Jenike, University of Utah.

Planning 1961 Production School

KANSAS CITY—Plans already are being made for the 1961 Feed Production School, to be held Sept. 11-13. Sub-committees are beginning work, and a start has been made on developing material for presentation during discussion sessions at next year's school.

Some of the plans for the school were outlined at the recently held 1960 event by Eric Carlson, Ralston Purina Co., St. Louis, the 1961 chairman. The school next year will consider various basic subjects in individual classroom-type discussion sessions.

The sub-committees, Mr. Carlson explained, will develop information and recommendations which are described as part of the "steps for survival"—company survival within the industry, industry survival within the economy and national survival in the world. Some of the subjects or steps, all aimed at assuring profit dollars, are illustrated in the accompanying committee picture. These include such things as plant layout, process flow, equipment standards, operations standards, etc.

Mr. Carlson announced sub-committee chairmen as follows: Definitions, Jerry Karstens, Feed Age; process flow, Stanley Juscen, Wirthmore Feeds; equipment standards, Will Brooks, Illinois Farm Supply Co.; plant layout and design, Ted Stivers, T. E. Stivers Co.; operating standards, C. Hew Chandler, Consumers Cooperative Assn.; systems and procedures, Dr. V. John Brensike, USDA; research, Robert Wornick, Chas. Pfizer & Co., Inc.; materials flow, Dr. Andrew Jenike, University of Utah; production handbook preparation, Dr. Harry Pfost, Kansas State University; facilities, Lou Bosso, Feed Production School, Inc.; publicity, Roger Berglund, Feedstuffs.

Soy Plant Completed

STUTTGART, ARK.—A multi-million dollar soybean processing plant here has been completed. Erected by the Arkansas Grain Corp., this plant built upon a 25-acre tract east of here was scheduled to start operation Oct. 15.

One of its first major purposes is to process soybean meal for poultry and livestock feed.

E. P. Escher of Screw Conveyor Dies

HAMMOND, IND. — Edward P. Escher, 68, vice president and member of the board of directors of Screw Conveyor Corp., died unexpectedly Oct. 10. He was stricken by a coronary attack while at luncheon with other company executives.

Mr. Escher was an industrial engineer and was active in the development and installation of milling and feed manufacturing machinery.

Funeral services were held Oct. 12 in the Infant Jesus of Prague Church, Flossmoor, Ill. Burial was in Pittsburgh.

Survivors include his widow, Rose; a son, William, and three daughters, Mrs. Anita Staples, Mrs. Robert Branahan and Mrs. Dolores Jackman.

Tastelation® FLAVORS ENGINEERED FOR ALL YOUR FEEDS
Lowers Feed Costs
Increases Acceptability
Holds Palatability
TE
TASTE ENGINEERING, INC.
1401 West Hubbard St. MOnroe 6-5255 Chicago 22, Illinois
Manufacturers ● Importers ● Distributors

Edema Cases Said To Emphasize Care In Ingredient Use

By JOHN CIPPERLY
Feedstuffs Washington Correspondent

WASHINGTON — There has been another outbreak of chick edema disease in poultry flocks in Georgia, according to information made available to this reporter from officials of the Georgia Extension Service and the Georgia Poultry Improvement Assn. However, they point out that the outbreak does not indicate any epidemic proportions.

The officials indicated that the edema in a relatively small number of flocks can be attributed to some low grade reprocessed fat. Symptoms were provoked which were similar to those which occurred in a widespread way about three years ago.

It was noted that only four flocks were involved, using supplies from two Georgia dealers whose source of supply appears to center in one small feed mixer.

A top technician has examined the alleged source of supply of the suspect fat, and he said that the dealers and their supplier were unable to identify the source of the suspect fat.

The inspection service is continuing its investigation of the fats and may issue a report later.

This reporter was assured that there are no indications of any epidemic. But some observers noted that such outbreaks, even small in magnitude, again focus attention of the feed industry on the importance of careful scrutiny of components of the feed.

Chick Edema Not In Epidemic Stage

By Special Correspondent

ATLANTA — Although several cases of chick edema disease have been reported in Georgia, authorities pointed out this week that the condition is not in the "epidemic stage."

Dr. Clyde Driggers of the University of Georgia said that about four cases have been reported but that he believes the situation is under control.

Harold Ford, executive secretary of the Southeastern Poultry and Egg Assn., noted that four cases had been reported but that industry had got on top of the situation immediately, and the condition has been arrested. It was believed that the cases were due to some "poor feed."

"I believe that industry has caught on to the trouble causing the several cases," Mr. Ford commented, "and it has now been corrected. I believe we got a little excited at first, but don't see anything reaching epidemic proportions now."

As a result of the limited cases, poultry people were previously cautioned to watch for signs of chick edema. (Feedstuffs, Oct. 8.)

Chicago Feed Club To Elect Officers

CHICAGO—Election of officers for the coming year will be held Oct. 21 at a meeting of the Chicago Feed Club at the Illinois Athletic Club.

The nominating committee will give its report, and further nominations may be made from the floor at the meeting.

Guest speaker at the meeting will be Dave Condon, feature writer and sports columnist of the Chicago Tribune. Mr. Condon is the seventh conductor of the Chicago Tribune's "In the Wake of the News" column and author of "The Go-Go White Sox." He will discuss sports in general.

A cocktail hour starts at 6 p.m. with dinner at 7.

Disease Cause Being Investigated

ATLANTA — Investigation of the cause of the outbreak of chick edema disease in some Georgia broiler flocks is continuing.

In the recent outbreak, officials say, it is suspected that the cause was a toxic element in some fat which was added to feed, as the disease is similar to the outbreak in the fall and winter of 1957-58, when fat was involved.

The feed mill involved in this instance has been able to trace down the feed to a certain day's production, it was noted, but this mill received its fat from two sources, and on arrival it went into one tank. This is said to point to another doubt as to the cause.

Meanwhile, officials say that precautionary measures are in order because of the possibility of a reappearance of the condition.

More Dehy Plant Shutdowns Seen

KANSAS CITY—The fires are going out in alfalfa dehydrating plants in the heavy producing areas, and Oct. 15 is likely to see the last output from a large number of drums in Nebraska, Iowa, northern Colorado and eastern Kansas, with further shutdowns coming rapidly thereafter.

Drouth and early low temperatures in these areas have brought the dehydrating season to a premature close.

As a result of these conditions, and similar ones in Ohio, it is expected that October production will fall much below that of last year. In September, there was some production loss from dry weather in Nebraska and the Ohio-Pennsylvania area.

At the end of September, stocks were about 12% higher than a year ago, but this difference is expected to be narrowed sharply by the end of October. The margin of stocks over last year fell sharply in September after the end of August when they were 25% above a year ago, according to American Dehydrators Assn. figures.

From now on, standard market quality dehy will have to come from storage, and industry observers expect that this will tend to strengthen the market further, as storage charges will have to be added to production costs in establishing prices.

J. R. Flynn K. C. Daniels

Kent Feeds Reports Promotion of Two

MUSCATINE, IOWA — Appointment of Joe R. Flynn as dealer development manager and Kenneth C. Daniels as manager, western division, has been announced by O. W. Joiner, general manager for Kent Feeds, Inc.

The dealer development manager position is a new post established to "provide more service and emphasis in the important area of developing financially sound Kent Feed dealers," said Mr. Joiner. It will be under the general direction of Fred G. Hocking, treasurer of Kent Feeds.

Mr. Flynn started with Grain Processing Corp. in February, 1947, as an accountant in the payroll division. In September, 1947, he was promoted to purchasing agent and in June, 1949, to assistant sales manager. In 1950, Mr. Flynn moved to Sioux City as divisional manager for the western division and, in 1958, was promoted to production manager of the Sioux City plant. Mr. Flynn will headquarter at Muscatine.

Mr. Daniels will direct the activities of both the Sioux City plant and the western division sales force. Mr. Daniels joined Kent Feeds as purchasing agent in 1945 and was promoted to sales supervisor in 1946. In 1949, he assumed the duties of advertising manager. In 1950, he was promoted to district sales manager, where he worked until July, 1957, at which time he was promoted to western division sales manager.

Net Income Down

DENVER — Colorado Milling & Elevator Co. earned net income of $170,817 or 31¢ a share in the quarter ended Aug. 31, it was reported here. The figures compare with $287,774 or 52¢ a share in the same period of 1959.

Net sales and operating income were down slightly at $29,471,603, from $29,692 356, the report said.

Chicago Issues New SBOM Futures Rule

By Special Correspondent

CHICAGO — With the thought of providing a "new style" soybean meal futures contract which will furnish improved hedging facilities to both manufacturers of commercial mixed feeds and soybean processors alike, the Chicago Board of Trade has opened such futures trading in that commodity under regulation No. 2066.

This regulation sets forth certain changes in the matter of billing and conforms to trade practices in the merchandising of cash meal. The "old style" futures contract, which permitted the buyer to order the meal shipped to any point in the country, regardless of the billing behind it, will be superseded entirely by the "new style," effective with the closing-out of trading in the March, 1961, meal contract on the grain exchange.

Trading is now going on in the May and July, 1961, contracts, and more forward months will be opened as the current "old style" futures come to maturity. For the May and July and subsequent futures months, new shipping certificates will be available and must be used. Shipping certificates issued prior to the passage of the new regulation may be used only to effect delivery of bean meal on October and December, 1960, and January and March, 1961, futures contracts.

The terms of the "old style" contract will, of course, remain in force and effect on transactions involving delivery and shipment of soybean meal on any and all futures up to and including ones maturing in March, 1961.

Details on the new regulation will be presented in next week's Feedstuffs.

FEED MAN ELECTED

FORT SMITH, ARK. — Collier Wenderoth, Jr., president of O. K. Feed Mills, is the new president of the Fort Smith Chamber of Commerce.

Average Bulk Prices and Index of Weighted Prices*
(Dollars per ton)

	Oct. 11, 1960	Oct. 4, 1960	Change from previous week
OILSEED MEALS			
Prices at prin. mkts.:			
Soybean meal	59.05	60.15	—1.10
Cottonseed meal	57.30	57.00	+ .30
Linseed meal	60.40	60.40	...
Copra cake or meal	57.50	57.50	...
Peanut meal	54.00	54.00	...
Index	76.4	77.2	— .8
ANIMAL PROTEIN FEEDS			
Prices at prin. mkts.:			
Meat meal	68.90	69.00	— .10
Tankage	67.65	67.65	...
Fish meal	90.00	90.00	...
Index	63.4	63.5	— .1
GRAIN HIGH-PROTEIN FEEDS			
Prices at prin. mkts.:			
Gluten feed and meal	45.60	44.00	+1.60
Dist. dried grains	56.85	56.85	...
Brewers dried grains	47.10	46.30	+ .80
Index	74.4	72.5	+1.9
WHEAT MILLFEEDS			
Prices at prin. mkts.:			
Bran	37.80	36.00	+1.80
Middlings and shorts	38.60	36.50	+2.10
Index	69.0	65.5	+3.5
OTHER MILLFEEDS			
Prices at prin. mkts.:			
Hominy feed	44.45	43.70	+ .75
Rice bran	29.00	29.00	...
Index	67.3	66.3	+1.0
ALFALFA MEAL			
Prices at prin. mkts.	49.30	48.50	+ .80
Index	94.9	93.4	+1.5
MOLASSES, FEEDING			
Prices at prin. mkts.	24.20	23.89	+ .31
Index	72.0	71.1	+ .9
ALL FEEDSTUFFS			
Index	72.9	72.4	+ .5
FEED GRAINS			
Prices at prin. mkts.:			
Corn	38.10	38.30	— .20
Oats	43.20	43.40	— .20
Barley	41.60	41.00	+ .60
Grain sorghums	34.00	34.10	— .10
Index	61.9	62.1	— .2

*Base period of index is 1947-49.
Source: USDA.

FEED PRODUCTION SCHOOL—At the close of the recent Feed Production School, a meeting of the school's board of trustees was held, and a new board of directors and officers were elected. Some of them are pictured here. Seated, left to right: Kenneth Grissinger, Kansas City, secretary and counsel; Joe Sloan, Cosby-Hodges Milling Co., Birmingham, Ala., new chairman of the board; Ray Ammon, the Quaker Oats Co., St. Joseph, Mo., vice chairman. Standing: Vernon Hayes, Hayes & Stolz Industrial Mfg. Co., Ft. Worth, a new director, and Silas R. Renaudette, Wirthmore Feeds, Inc., Waltham,

4 GRAMS!

that's the amount of zinc bacitracin (Baciferm) per ton of feed that increases broiler profits $6 to $22 per 1000 birds.

That's all. 4 grams. And broiler profits can increase $6.55 per 1000 birds to $22.58 per 1000 birds. That's what Baciferm zinc bacitracin antibiotic supplements do for you.

The proof? We have just completed calculations on the results of *six* recent tests conducted in different parts of the country involving over 14,000 birds! The summary below highlights the pertinent facts and figures. See for yourself why Baciferm makes such good business sense (and dollars) in *your* broiler feeds. These results confirm the data from scores of tests run during the past several years.

	NUMBER OF BIRDS	EXTRA PROFIT PER THOUSAND BIRDS OVER CONTROL (4 GRAMS ZINC BACITRACIN PER TON)
CSC TEST #23	524	$15.34
COLLEGE TEST #59	964	$13.95
COLLEGE TEST #60	300	$ 9.50
FEED MANUFACTURER'S TEST #78	12,000	$ 6.55
COLLEGE TEST #82	600	$21.85
COLLEGE TEST #83	150	$22.58

BASIS: market price of broilers 16¢ per lb.; feed cost 4½¢ per lb.; zinc bacitracin 7¢ per gram.

Doesn't it look like Baciferm is the buy for you? Baciferm's the buy for more and more feed manufacturers for both low and high level use. It's the economical antibiotic supplement for poultry and swine feeds. It contains the selectively-active antibiotic *zinc* bacitracin made exclusively by CSC under Patent No. 2,809,892. Baciferm's selective action kills dangerous bacteria fast but lets beneficial bacteria go right on producing vitamins and other valuable growth factors. College tests show that Baciferm gives full value in stimulating growth and reducing mortality. And — *zinc* bacitracin has the antibiotic stability manufacturers require.

One other thing: for stress and disease Baciferm can be added to each ton of *your* feed at $2 to $4 less than the cost of the tetracyclines.

ANIMAL NUTRITION DEPARTMENT

COMMERCIAL SOLVENTS CORPORATION, 260 MADISON AVENUE, NEW YORK 16, N. Y.

CSC

IN MEXICO: Comsolmex, S.A., Mexico 7, D.F.

CANADIAN SALES REPRESENTATIVE: Norman Stark

Mineral Nutrition Discussed at Nebraska Feed Conference

By THOMAS E. LETCH
Feedstuffs Staff

LINCOLN, NEB.—Mineral nutrition came in for considerable discussion at the recent Nebraska Feed and Nutrition Conference held here.

Effects of Food and Drug Administration regulations were also discussed at the meeting (Feedstuffs, Oct. 8).

In addition to members of the staff of the University of Nebraska College of Agriculture, speakers included Dr. H. R. Bird, chairman, department of poultry husbandry, University of Wisconsin.

Dr. Bird discussed "Minerals in Poultry Nutrition." Dietary minerals have a variety of uses and the quantities needed are very different for different mineral elements, he said. Compounds of calcium and phosphorus are important building materials; they provide rigidity in bones and egg shells. Compounds of calcium, phosphorus, sodium and potassium make possible the regulation of osmotic pressure and acid-base balance in blood and other fluids. Manganese, iodine, magnesium, iron, copper, zinc, molybdenum and selenium must be present in order for certain essential biochemical reactions to take place. Laying hens need about 2.25% of calcium in the diet, but only about 0.00004% of iodine, Dr. Bird said.

Table 1 gives the recommended levels of minerals for different classes of poultry. Feeds for the purposes specified should contain at least these levels, Dr. Bird said. "Levels of the trace minerals, which are indicated in milligrams per pound, may be considerably higher than these figures. However, large excesses are undesirable for the major elements, which are given in percentages. Levels of these could go at least 50% higher than the tabulated figures without danger."

Not Expensive

"Minerals are not expensive," Dr. Bird continued. "Ordinarily they account for only about 5% of the cost of poultry feed. However, considerable attention has been given to the possibility of reducing mineral levels in order to raise energy levels. There is good evidence that under some conditions the calcium levels for growing stock in Table 1 and the phosphorus levels for growing and laying stock are higher than necessary. On the other hand, it has also been reported that levels of calcium higher than that given in the table may be beneficial to layers in hot weather."

Dr. Bird said that at least three fourths of the phosphorus should be from a readily available source. Most mineral supplements are readily available, although there are differences among them. Much of the phosphorus of grains is unavailable.

The Wisconsin professor noted that attempts are often made to reduce salt levels to reduce the risk of wet litter. "The figure of 0.15% of sodium given in the table is equivalent to 0.37% of salt, and is believed to be the lowest figure which can be recommended with safety."

Until recently, he continued, manganese and iodine were the only trace minerals considered necessary as poultry feed supplements. Deficiency of manganese leads to slipped tendon in chicks and poults, and to poor hatchability of eggs. Deficiency of iodine leads to enlarged thyroids.

In the last few years, Dr. Bird said, zinc deficiency has been studied extensively in chickens and turkeys. In young birds it leads to poor feathering, poor growth and hock deformity; in breeders it leads to decreased hatchability and deformed embryos. Dr. Bird showed slides vividly illustrating the results. "Because some of the zinc in feedstuffs is unavailable, a zinc supplement in starting and breeder diets may be desirable," he concluded.

Needs of Turkeys

Dr. Thomas Sullivan, assistant professor, department of poultry husbandry, analyzed the mineral needs of turkeys.

"During the past two years we have conducted six experiments to study the calcium and phosphorus requirements of turkeys from 8 to 20 weeks of age. It was our belief at the beginning of this work that the suggested requirements, 2% calcium and 1% phosphorus, were much too high for such birds. Our results have supported this idea," Dr. Sullivan said. "After conducting three experiments in which the calcium level was held constant at 1.50% and different levels of phosphorus were fed, we could draw the following conclusions: When the diet contains 1.50% of calcium, turkeys 8 to 20 weeks of age require from 0.70 to 0.80% of total phosphorus, or about 0.40 to 0.50% of 'available phosphorus.' However, we had no evidence that 1.50% of calcium was the optimum level. Results from a fourth experiment clearly showed that 1.50% of calcium was considerably more than the minimum requirement."

Dr. Sullivan said it would appear from their experiments that 0.62% calcium and 0.52% phosphorus are near the minimum requirements for turkeys 8 to 20 weeks of age.

"We definitely need to take another look at the calcium and phosphorus levels in our turkey starter rations," Dr. Sullivan said. "An excessive level of calcium may interfere with the utilization of phosphorus, zinc and certain antibiotics."

Supplementary salt is needed in turkey rations mainly as a source of sodium, said Dr. Sullivan. The inclusion of 0.5% salt in all turkey rations is recommended. Higher levels of salt are sometimes used to retard cannibalism. This is a risky practice. Two percent salt in a starting ration will increase water consumption, which results in watery droppings and decreased growth. Higher levels of salt may be toxic, he said.

Practical turkey rations usually contain a minimum of 0.6 to 0.8% potassium, which is well in excess of the probable requirement, Dr. Sullivan continued.

A deficiency of magnesium should not occur under practical conditions. However, the magnesium requirements of turkeys deserve further study, according to Dr. Sullivan.

Fortify Rations

Deficiencies of iron and copper under practical conditions are unlikely. It is a good practice, however, Dr. Sullivan noted, to fortify rations for starting poults and breeder hens with a trace mineral mixture that will furnish 20 milligrams of iron and 2-3 milligrams of copper per pound of feed.

The need for additional iodine exists primarily in certain areas. A level of 1 milligram of iodine per pound of feed is suggested for turkeys, he said.

One quarter pound of technical grade manganese sulfate (containing 32 to 33% of manganese) in all turkey rations will raise the content well above the marginal level.

Starting poults require about 25 milligrams of zinc per pound of feed for maximum weight gains, Dr. Sullivan said. A higher level may be required for maximum bone and feather development. Dr. Sullivan said that experiments indicate that zinc carbonate and sulfate monohydrate are superior sources of zinc for turkey poults.

Under certain experimental conditions and with purified rations, both selenium and molybdenum have produced beneficial effects. However, Dr. Sullivan said, these observations would appear to have little or no significance with regard to practical turkey rations.

Dr. Sullivan listed suggested mineral levels for turkey rations in Table 2.

Dairy Cattle

Mineral supplementation for dairy cattle was discussed by Dr. Foster G. Owen, associate professor, dairy husbandry.

"The need for mineral supplementation of dairy cattle rations is dependent upon the size and animal performance and the extent to which the basic ration being consumed will supply the needed elements. Recommendations on mineral supplementation are frequently debated. This is mainly because of the extreme variation in the mineral content of feedstuffs and the concern for preventing deficiencies and for avoiding excesses," Dr. Owen said.

The three minerals required in largest amounts by dairy cattle are

TABLE 1. Recommended Levels of Minerals for Poultry Feeds (In percentage or amount per pound of feed)

	Starting chickens, 0-8 wks.	Growing chickens, 8-18 wks.	Laying hens	Breeding hens	Starting poults, 0-8 wks.	Growing turkeys, 8-16 wks.	Breeding turkeys
Calcium, %	1.0	1.0	2.25	2.25	2.0	1.5	2.25
Phosphorus, %	0.6	0.6	0.6	0.6	1.0	0.8	0.8
Sodium, %	0.15	0.15	0.15	0.15	0.15	0.15	0.15
Potassium, %**	0.2	0.15	0.2*	0.2*	0.2*	0.15*	0.2*
Manganese, mg.	25	25	10	15	25	25	15
Iodine, mg.	0.5	0.2	0.2	0.5	0.5	0.2	0.5
Magnesium, mg.**	220	220	220*	220*	220*	220*	220*
Iron, mg.**	9.0	9.0	9.0*	9.0*	9.0*	9.0*	9.0*
Copper, mg.**	0.9	0.9	0.9*	0.9*	0.9*	0.9*	0.9*
Zinc, mg.	20.0	20.0	10.0	10.0	25.0	25.0	10.0

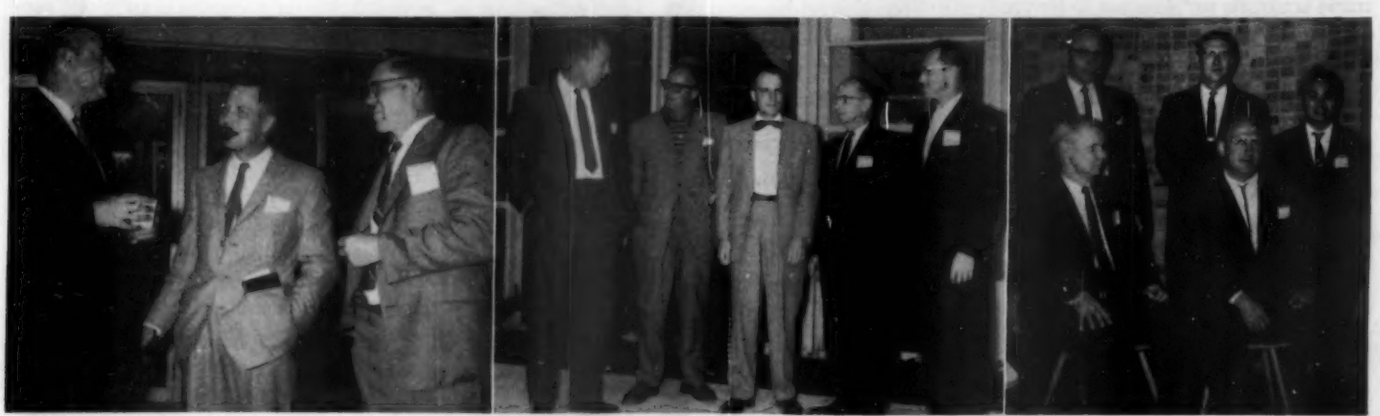
*Figures based on analogy because of lack of information on requirement of this class of poultry for this nutrient.

**These nutrients could be omitted from the specification. They would always be present at adequate levels.

TABLE 2. Mineral Levels Suggested for Various Turkey Rations, Sullivan, 1960

Mineral element	Starting poult, 0-8 wks.	Growing turkeys, 8-24 wks.	Turkey breeders
Calcium, %	2.00	0.70	2.25
Phosphorus, %*	1.00	0.70	0.75
Salt (NaCl), %	0.50	0.50	0.50
Potassium, %	0.40	?	?
Magnesium, mg./lb.	?	?	?
Manganese, mg./lb.	25	20	15
Iodine, mg./lb.	1	1	1.0
Iron, mg./lb.	25	20	30
Copper, mg./lb.	2.5	2.0	3.0
Zinc, mg./lb.	30	30	20
Molybdenum, mg./lb.	?	?	?
Selenium, mg./lb.	?	?	?

*Total phosphorus, however, rations for starting poults should contain 0.50% of available phosphorus; rations for turkeys 8 to 24 weeks of age should contain 0.30% of available phosphorus.



AT NEBRASKA CONFERENCE—Taking a break during the recent Nebraska Feed and Nutrition Conference are, from left to right, in the first picture: Don Herr, Iowa Soya Products, Columbus, Neb.; Leo C. Negethon, Minrulax, Inc., Council Bluffs, Iowa, and Trueman Jacobsen, Minrulax, Inc., Missouri Valley, Iowa. In the center picture, from left to right, Grant Barrett, Lexington Mill & Elevator Co., Lexington, Neb.; Carl Barthule, Morton Salt Co., Grand Island, Neb; Paul Zimmer, American Cyanamid Co., Kansas City; Sheldon Howerter, Squealer Feed Co., Harlan, Iowa; Gib Wood, Calcium Carbonate Co., Omaha. Speakers and listeners shown in the picture at the right are: Back row—John Bryan, Scotia Grain & Feed, Scotia, Neb.; Bob Heindryckx, Bryan Milling Co., Spalding, Neb., and Dr. Johnny Matsushima, University of Nebraska, and front row—Dr. H. R. Bird, University of Wisconsin, and Norris Nedela, Norfolk Feed Mills, Albion, Neb.

salt, phosphorus and calcium, he continued. The present recommended practice of supplying the salt needs by incorporating it at a 1% level in the concentrate in addition to allowing it free-choice appears to provide adequately for this need. The requirement for salt appears to be primarily because of its sodium content and recent reports show that animals fed minerals free-choice prefer monosodium phosphate to sodium chloride, Dr. Owen said. Cows consume more loose salt than block salt but the intake of block salt is probably adequate for the dairy cow.

The cow's needs for calcium and phosphorus are easily and inexpensively met. Feeding legume or legume-grain hay will satisfy the calcium needs. However, even the best forages may not supply enough phosphorus for high producing cows. Using at least 25% of high phosphorus feeds in a concentrate mixture will often provide an adequate amount, but to insure sufficient phosphorus intake it is advisable to add 1% of a high phosphorus supplement such as dicalcium phosphate or defluorinated phosphate to the concentrate mixture. Since both of these supplements contain calcium, this will give protection against calcium deficiency even when non-legume roughages are fed. Cows grazing and not receiving concentrate should have access to a high phosphorus supplement as well as salt, Dr. Owen said.

"No benefits have been obtained from the addition of trace minerals to the rations of lactating cows in the few experiments which have been reported," Dr. Owen said. "However, the use of trace-mineralized salt is an inexpensive insurance against deficiencies."

The young calf requires three to four times as much calcium and phosphorus per unit of feed eaten as the 18 month old heifer. The need for trace minerals by growing animals is also more critical than for mature animals. Therefore, the Nebraska professor continued, growing cattle should receive supplemental calcium, phosphorus and trace minerals. This is especially important when calves are weaned early (4-8 weeks) and intakes of dry feed are low.

In conclusion, Dr. Owen noted that excessive mineral supplementation should be avoided since it may reduce feed intake and digestibility, and the availability of certain essential elements.

Beef Cattle

In discussing mineral supplementation for beef cattle, Dr. Johnny Matsushima, professor of animal husbandry, noted that very little is known about mineral requirements, especially for trace minerals.

"The feeds which make up the ration or the type of forages which cattle graze will usually help determine the need for the kind and rate of mineral supplementation. This would apply particularly for calcium and phosphorus. A lack of certain mineral or minerals may lower the performance of animals and increase the cost of beef production. However, it is just as important to know that excessive feeding of certain minerals may be toxic to the animal," Dr. Mutsushima said.

"The fact that the presence of essential minerals will affect the performance of cattle does not necessarily imply that 'the more you feed, the greater the response.' Excessive feeding of ordinary salt can reduce feed intake and sometimes alter the consumption of mineral elements," he said.

"There have been no reports of trace mineral deficiencies in Nebraska," Dr. Matsushima continued. "This does not mean that livestockmen need to forget about them. Various changes in cropping systems, preparation of feeds, the inclusion of certain feed additives and other factors could lead to a lower level of mineral intake or perhaps an increase in the body requirements for certain minerals."

The speaker noted that among the essential trace minerals for beef cattle, cobalt has been receiving considerable attention. A recent report from the South Dakota State Experiment Station has shown that cobalt supplementation to range cattle enhanced the performance of yearling steers. Tests are being conducted to determine if pasture grasses in Nebraska are lacking in cobalt, he said.

Dr. Matsushima also noted that recent reports have indicated that organic iodine may be useful in preventing foot-rot in feedlots.

NEW BRANCH—Dr. Salsbury's Laboratories, Charles City, Iowa, has just opened this new distribution branch in San Jose, Cal. This new facility replaces one at Rosemead, Cal. (Feedstuffs, Oct. 8). The new branch will service California, Nevada, Arizona, Washington, Oregon, Utah and Idaho. The firm also has branches at Columbus, Ohio; Ft. Worth; Atlanta, and Wilmington, Del.

Minerals for Swine

In discussing mineral nutrition for swine, Dr. Donald Hudman, assistant professor of animal husbandry, confined himself to the two major minerals, calcium and phosphorus, and the trace mineral, zinc.

"Workers from Michigan State have recently reported research with varying levels of calcium and zinc on the incidence of the skin disorder, parakeratosis. From their results and many other experimental results, it is apparent that the cause of the parakeratotic condition is quite complex. Their results also indicate that the calcium requirement for swine may be much lower than previously reported. The calcium level in the ration definitely influences the zinc requirements. More research is needed in evaluating these requirements," Dr. Hudman said.

Other research reported from Purdue indicates that protein and fat sources have an effect on utilization of calcium and/or zinc, Dr. Hudman continued. "These workers have shown that the amount of phytic acid ordinarily present in soya protein lowers the performance of growing swine fed a casein ration. The addition of zinc to the casein ration overcomes the influence of the added phytic acid indicating that zinc is bound by phytic acid so that it is unavailable to the animal. The supplementation of soya rations with zinc overcomes the influence of the naturally occurring phytic acid found in the soya protein. Also, corn oil appears to be superior to soybean oil in semi-purified soya rations for swine since soybean oil appears to lower zinc utilization. These workers concluded that the source of protein and probably the source of fat influence the

BACK SAVER WITH STEEL TRUCK BODY

SEMI-TRAILER BACK SAVER

SEMI-TRAILER SKOOP SKIPPER

E-Z UNLOADER

SKOOP SKIPPER

Only PAMCO Unloads AND Loads To SPARK Booming Bulk Sales!

"Pamco — our best business booster" is a common phrase in the bulk industry today. Pamco's reputation is founded on combining quality with simplicity, yet priced reasonably. Pamco makes handling sacks as obsolete as the scoop shovel. Shrinks your overhead costs while sparking new business . . . takes the backache out of customer service.

Back Saver . . . attaches to any grain box. Exclusive unloading and loading anywhere, anytime. Pellets handled with minimum breakage. Smooth hydraulic operation.

Skoop Skipper . . . tank stabilization. Standard 2, 3, or 4 compartment units. Pamco positive seal assures against leakage of materials. Dispersing auger for loading leads into each compartment. Double gate per compartment standard for each unit.

PAMCO Installation and Distributing Points Serve You Wherever You Live

Productive Acres Mfg.

1406 S. 7th Street

Oskaloosa, Iowa • Ph. ORchard 2-2576

Phone St. Paris, Ohio
JUniper 3-6421
Jefferson, Georgia
EMerson 7-8594

Honeggers' can help you . . .

DOUBLE YOUR TONNAGE TRIPLE YOUR PROFITS

What others have done, you can also do!

A little over a year ago we became a member of the network of Honegger Associate Hatcheries. During that year our sales of Honegger Layer Chix were more than double our goal. Our hog feed business also more than doubled.

We were in the hatchery and feed business before we joined Honeggers' but we had our heads in the sand.

Now we're GOING and GROWING!

Glenn McDaniel, Owner
Mac's Hatchery
Marion, Indiana

with HONEGGERS' BIG FRANCHISE

Write or call today

HONEGGERS'

FAIRBURY, ILLINOIS

zinc requirement of growing swine."

Some of the factors that should be considered in determining the levels of calcium, phosphorus and zinc in swine rations, Dr. Hudman concluded, are: (1) The ratio of calcium to phosphorus should not exceed a ratio of 1.5 to 1, (2) the level of calcium and/or phosphorus should not be excessive, (3) zinc should be supplemented according to the feedstuffs used in the rations, (4) indiscriminate use of materials that may contain chelating agents should be avoided, and (5) some measure of available calcium, phosphorus and zinc may be needed to determine the level of these minerals required in swine rations.

Chelating Agents

A final topic discussed at the conference was "Developments in Chelating Agents with Respect to Nutrition" by Dr. Richard Dam, research associate in biochemistry, department of biochemistry and nutrition.

"The term 'chelate' was proposed by Morgan to designate those cyclic structures which arise from the union of metallic atoms with organic or inorganic molecules or ions," Dr. Dam explained. "The interest of the nutritionist in the chelation phenomenon revolves around his interest in mineral metabolism."

Under certain conditions proteins used in feeds are capable of binding metals rather tenaciously, Dr. Dam noted. In work done by Norris and Davis the protein was soybean protein and the particular condition being that the phytic acid has not first been removed. This would be the case with a normal commercial product. The requirements of the chick for molybdenum, zinc and manganese have been shown to be higher when a soybean protein diet was used than when a casein diet was used, Dr. Dam said.

"Phytic acid is known to combine with proteins," Dr. Dam continued. "It is postulated that this protein-phytic acid complex further combines with trace minerals, such as zinc, to form a zinc-phytic acid-protein complex. Zinc is firmly bound in this complex and becomes unavailable to the chick. Similar complexes are intimated for manganese and molybdenum, although the existence of such complexes still awaits proof. The overall effect of soybean protein in decreasing the availability of these compounds is known, however. It is the mechanism of means by which this occurs that lacks proof."

The work of Kratzer et al. showed that the zinc contained in soybean protein could be made available to the turkey poult if the protein was autoclaved. The point of greatest interest, Dr. Dam said, however, was that the availability of zinc in a soybean diet could also be increased by adding EDTA (ethylene diamine tetra acetic acid) to the basal diet.

"The use of chelating agents in animal nutrition is relatively recent. Plant nutritionists are years ahead of us. They have been using metal chelates to prevent chlorotic conditions in plants for some time. Botanists had used chelates such as iron citrates and tartrates for years and wondered at their effectiveness. It wasn't until 1946 that an adequate explanation, based on metal buffering, was developed," Dr. Dam said.

"It is this concept of metal buffering which may in future years prove of greatest benefit to the animal nutritionist. In the past the metal building effects of proteins in the diet could be overcome simply by adding more of the particular element to the ration. It may not be so simple in the future. The use of trace metals is quite different than the use of vitamins. Both are required in relatively small amounts. In the case of vitamins, however, we can add many times the known required amount without any ill effect. We have a large safety factor. Not so with trace metals; small increases in concentration may be toxic.

"A graphic indication of this point is the report of Turk and Kratzer (1960) at the recent Poultry Science meeting. These workers indicated that an optimum dietary inclusion of cobalt in chick diets was a level of 4.75 ppm, but that levels in excess of 5 ppm depressed growth rate. This might be an ideal place then for the use of a chelate system to act in a metal-buffering capacity. This would provide a constant optimum level of the element and keep the rest tied up and prevent its toxicity," Dr. Dam said.

It should be pointed out, Dr. Dam concluded, that chelating agents are not the answer to all problems. There can be certain inherent dangers in their use. Investigators may get one result from their use in vitro and another result when they are tried in vivo.

Dean E. F. Frolik of the College of Agriculture welcomed the group, pointing out that agricultural progress has not been matched by any other industry in the past 20 years. "Today we are feeding 180 million persons; in 1975 we will have 245 million in the U.S." He predicted that this nation's agriculture, through its new technology, will meet the challenge.

Presiding over the morning session was Clarence O'Brien, Crete Mills, Crete, Neb. Dr. John L. Adams, chairman of the department of poultry husbandry and chairman of the conference, presided at the afternoon session.

RECOMMENDS PROGRAM—The newly created legislative committee of American Feed Manufacturers Assn. met recently in Chicago to recommend a legislative program to the AFMA board of directors. Shown seated, left to right, are: Dean McNeal, the Pillsbury Co. (chairman of AFMA board of directors); Everett W. Turner, the Grange Co. (vice chairman of board), and J. D. Sykes, Ralston Purina Co. (chairman of the legislative committee). Standing, left to right, are: W. E. Glennon, AFMA president; Henry C. Tilford, Jr., Dixie Grain Co.; Steele Wright, Texas Farm Products Co., and B. D. Eddie, Superior Feed Mills.

Missouri Beef Testing Station Gets Underway

COLUMBIA, MO.—One of the few beef cattle testing stations where the cattle will be fed individually is receiving its first entries on a farm south of Columbia.

Up to 25 entries consisting of a bull and a steer by the same sire will be tested after the animals have had a 30-day breaking-in period. The steers will be slaughtered at the end of the test period to obtain carcass information. The Missouri station is the first in the country with this testing feature, says R. K. Leavitt, supervisor.

The bulls will be scored on the rate and efficiency of gain in weight and on conformation.

The entries will be fed a completely pelleted ration twice a day at individual feeders. Accurate records will be kept of the total feed each animal eats. Entries will run free in pens except during the feeding periods.

The station, the first in the state, is operated by the University of Missouri college of agriculture in cooperation with an advisory comm't-tee made up of representatives of the beef breeds.

Missouri Mill Leased

GREENFIELD, MO.—The Lipscomb Agricultural Supply Co., Springfield, Mo., has taken over operations of the Greenfield Milling Co., it was announced. A spokesman said the mill was leased from Verl Wills, who has operated it for 14 years.

The plant is the fourth in the Ozarks area that Lipscomb has taken over in recent years. The others are located at Liberal, Monett and Larussell.

The plant here will be known as Aggieville. Extensive remodeling is planned for the present office and scale house. A retail outlet will also be established here.

Another Profit-Able "FARMACEUTICAL" from Specifide

SPECIAL PREMIXES for EXTRA FALL PROFITS

Proven Products from Specifide's Catalog of *FARMACEUTICALS*

- **EGG LARGESS** — To increase egg production of hens and pullets. Gives real gains and profits . . . improves quality . . . eliminates cracked eggs.
- **CALMER** — A tranquilizer without drugs for nervous flocks and animals. Gets flocks into the laying house without a "nervous" slump.
- **STOPPITE** — Especially recommended to stop tail and ear biting in hogs. Results confirmed.
- **KRONIKOF** — For chronic coughs in hogs not due to active viral or bacterial infection.

MAIL THIS COUPON

Send Special Premix Folder to

Mr. .....

at .....

.....

10-15 FS

Specifide INC.

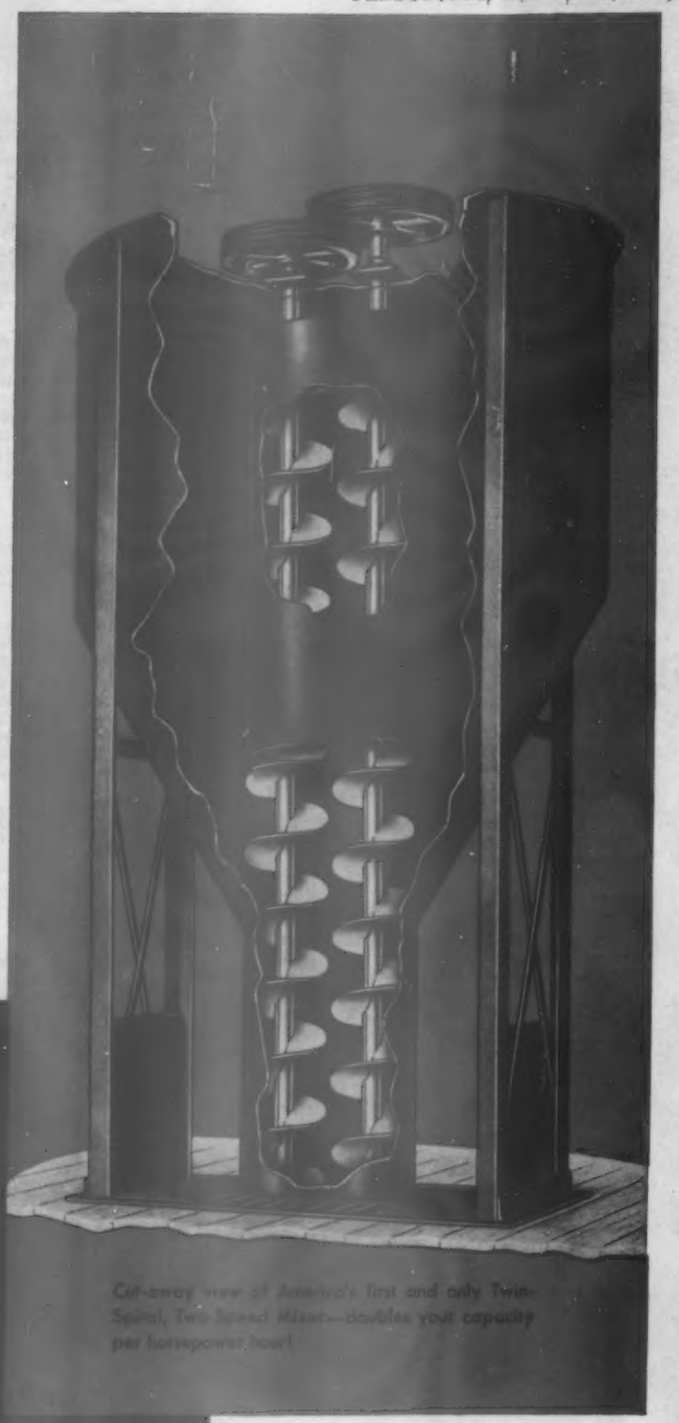
MAIN OFFICE: INDIANAPOLIS, INDIANA
P.O. BOX 55263
Plants at Indianapolis and Des Moines

scientific blending and mixing increase feedmill profits

High cost grains, concentrates and supplements demand that custom mixing be handled scientifically to yield your feeder customers maximum animal feed gain.

This more efficient mixing and blending of feed to achieve high nutrition uniformity is best obtained through the dual-action of PRATER TWIN-SPIRAL MIXERS.

Two-spiral, two-speed control is an original PRATER design—exclusive and patented! It has proved to be a business-building advantage for all Blue Streak Mixer users. Your choice of seven sizes, ½ ton through 5 ton; all *oversize* to handle *full loads* of even the lightest feeds.

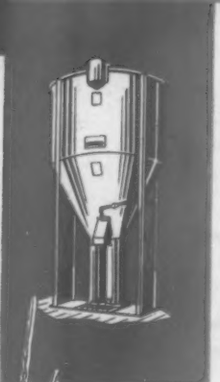


Cut-away view of America's first and only Twin-Spiral, Two-Speed Mixer—doubles your capacity per horsepower hour!

BLUE STREAK Prater

TWIN-SPIRAL MIXERS

Before you invest further, be sure to send for the full Mixer story. Write for Bulletin SM594. PRATER engineers are also available to help with suggestions, layouts, recommendations and mill surveys, without any obligation on your part. This valuable free help is yours for the asking.



PRATER
PULVERIZER COMPANY
1537 South 55th Court
Chicago 50, Illinois

EXTRA FEATURES

Accurate, homogenous blend assures exact equal distribution of high potency concentrates and grain to each animal and bird.

Faster mixing to save customer time and reduce overhead expense.

Special models for thorough mixing of hay, shucky ear corn and small grains *without* bridging.

Sealed for life self-aligning maintenance-free bearings.

Silent "V" drive.

Tough, durable, heavy construction.

New Arkansas Egg Firm, Subsidiary Of Feed Company, Begins Operations

LITTLE ROCK, ARK.—A new commercial egg producing firm—a subsidiary of a well known Arkansas feed company— has begun operations with 30,000 layers on a farm near Little Rock. The firm expects to complete facilities for another 30,000 hens early next year.

The new firm, Arkansas Egg Farm, Inc., has some 30,000 layers in three houses on an 85-acre farm south of Little Rock. The firm is a wholly owned subsidiary of the Darragh Co., Little Rock, which has been in the feed manufacturing business for more than 50 years. Feed for the layer operations will be delivered in bulk from the Darragh plant, a distance of 14 miles.

The new farm operation represents the first step in Darragh's changing from contract egg production to its own egg production facilities, explained Hillman S. Koen, Jr., general manager of Arkansas Egg Farm, Inc. Present contract egg production, he added, will be maintained.

The firm plans to produce eggs aimed at qualifying for the U.S. Department of Agriculture's graded egg stamp. If the eggs reach this quality, the company will be second of its kind in Arkansas.

The eggs will be marketed through the Arkansas Egg Co. to Arkansas Kroger stores as a part of their "Growing with Arkansas" program.

Two Types of Housing

Two types of housing are being used for the layers. In two of the houses, the birds are on the floor, and in the third, they are on slat floors, with reduced space per bird.

"The two types of houses being used will enable us to evaluate some of the recent trends toward reducing the housing area required per bird by the use of slat floors," said Mr. Koen. "The smaller house will reduce the labor substantially. The per bird cost of the two types of houses is comparable."

The first birds were placed in the laying houses on Oct. 1, when they were 22 weeks old. These birds, Hy-Lines, were raised on woods range. (See accompanying story.)

Mr. Koen said the firm has about $100,000 invested in the buildings, real estate and equipment.

The two laying houses with birds on the floor are 820 ft. long, which makes them the longest laying houses in the state. Each is 34 ft. wide and is built with rows of nests on each side. A four-foot hallway runs the length of the buildings, providing space for a trolley for hand-gathering the eggs. Each of the houses has a capacity of 10,000 birds.

The houses are of pole-type construction. Creosoted poles support oak rafters, and the roof is of sheet iron. Sides are covered with poultry netting and have adjustable plastic curtains.

There is a four-inch dead air space at the roof. This was created by using felt over poultry netting four inches below the sheet iron. Mr. Koen feels that this will provide insulation, helping to eliminate the heat problem. The felt is whitewashed, which helps prevent transfer of heat from the roof to the interior.

A transparent panel was inserted every 40 ft. in the roof to give additional light.

The houses have 40 pens which are 15 by 40 ft. The firm is using 2,240 metal compartments for nests.

The third house is smaller than the others, but Mr. Koen believes that it will provide as much production from its 10,000 layers. This house, with slat floors, is only 240 ft. long and is 38 ft. wide. It provides 0.8 sq. ft. of floor space per bird, compared with about 2.5 sq. ft. in the other buildings. The smaller house is equipped with fogger fans. It has poultry net sides.

A photo-electric cell will keep building light at the farm adjusted to outdoor light conditions. Mr. Koen said the hens will have light an average of 14½ hours per day.

Eggs will be gathered five times daily, and the hens will be sold after they have been in production for 12 months. Coolers will be used to maintain egg quality.

• • •

Pullets for New Egg Program Raised in Woods

LITTLE ROCK, ARK.—The pullets being used in the new egg production program of Arkansas Egg Farm, Inc., were raised as part of a project which has found thousands of chickens being raised to laying stage in the woods, eliminating shelter cost and enriching the forest land.

The project is sponsored by the Darragh Co., manufacturer of Darco Feeds, which furnishes the six-to-eight-week-old chickens. The timber land owner takes it from there, placing the chicks on timber acreage, feeding them and otherwise caring for them. At laying age, the birds are placed with egg producers.

Two farmers in Grant County, Ark., told a newspaper reporter how they are pleased with results of the program under which they have raised thousands of pullets. The two farmers, H. K. Talbert and W. J. Phillips, said the chickens need about five acres of woods land per 1,000 birds. They use a 35 to 40-acre tract for a flock of 7,000 birds. The land can only be used successfully every other year, so new acreage must be provided for second flocks.

After a tract is selected, the chicks are taken from brooder houses to the land. The farmer has placed two strands of electrified wire around the acreage, assuring that the birds can be kept in and wild animals out. The chickens are placed in "bunches" of 300 to 400 over the 40-acre timber tract.

The participating farmer scatters watering facilities over the land. He hauls water to the woods land and feeds the chickens in the area in which they are first placed.

He is paid for his efforts by Darco dealers, who also furnish the feed.

"My chickens never stray very far from the spot where they were put down, or the feeding ground," said Mr. Talbert. "If they grow a little wild, I cut down slightly on the feed. They forget their fear to get at the feed."

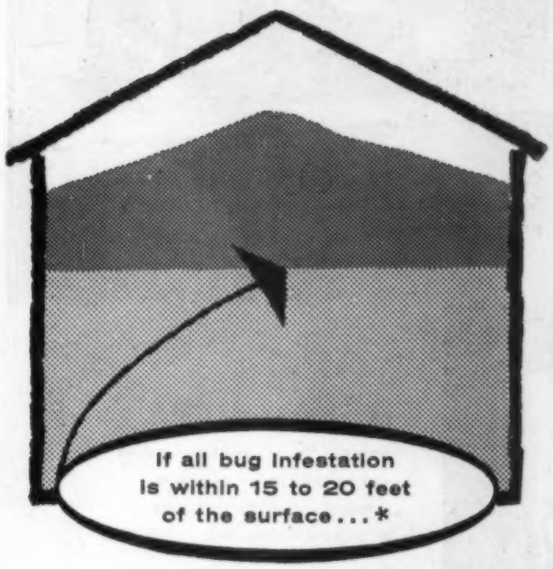
When it is time for the pullets to be taken from the woods, the farmer builds a wire pen at the entrance to the woods. With feed enticement, the chickens can gradually be taken from the woods into the pen. There they can be caught and placed in trucks.

Farmers say that the forest land can be cleared as clean as a floor by the scratching chickens. The owners say that they then can expect to get a good stand of pines on the acreages.

The timber land owners say it's a three-way project — cutting down poultry shelter costs, enriching the land and paving the way for a good crop of pine trees.

REBUILDING CANCELLED

LAKEVIEW, ORE. — Ralph and Frayne Williams, owners of the William Farm Commodities, have announced that they will not rebuild the firm's pelleting facilities destroyed by fire Aug. 11. However, they do plan to rebuild the grain handling facilities and will continue to buy and sell grain, according to an announcement. The firm will add a brokerage type of business to sell all kinds of feeds, seeds and farm supply items strictly on an order basis.



Why pay good money to fumigate clean grain?

THE MOST ECONOMICAL WAY to eliminate infestation on or near the surface of your grain is with Douglas TETRASPOT. TETRASPOT is a low-gravity fumigant . . . it penetrates the top 15 to 20 feet and hangs there. The gas formed by the evaporation of liquid TETRASPOT kills all forms of insects, in all stages of development.

ONLY 2 GALLONS of TETRASPOT *will completely fumigate* 1000 *bushels. And it takes fewer gallons to fumigate with TETRASPOT than with ordinary fumigant, saves you time too. That's because with TETRASPOT you fumigate only the area that's infested, not the entire grain mass as with an ordinary fumigant.*

FOR SPOT TREATING pour TETRASPOT in a circle around the infestation about 6 to 8 feet from the edge. This ring of fumigant walls off the infested spot and drives the bugs into the center. After 3 or 4 hours dose the center of the spot.
Get TETRASPOT today. It costs less because it takes less.

*If you're not sure about the extent of infestation in your grain, write today to have a Douglas Sanitation Expert check all your grain. No charge, no obligation.

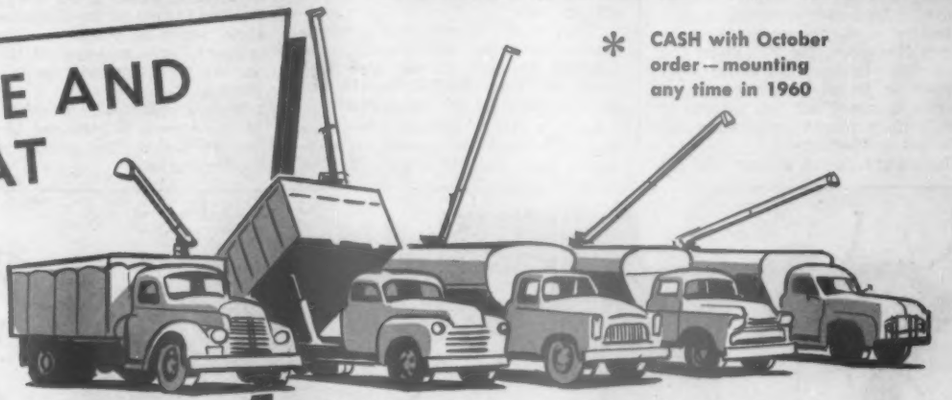
Grain Sanitation Division
Douglas Chemical Company
620 East 16th Avenue North Kansas City, Missouri

CELEBRATION SALE

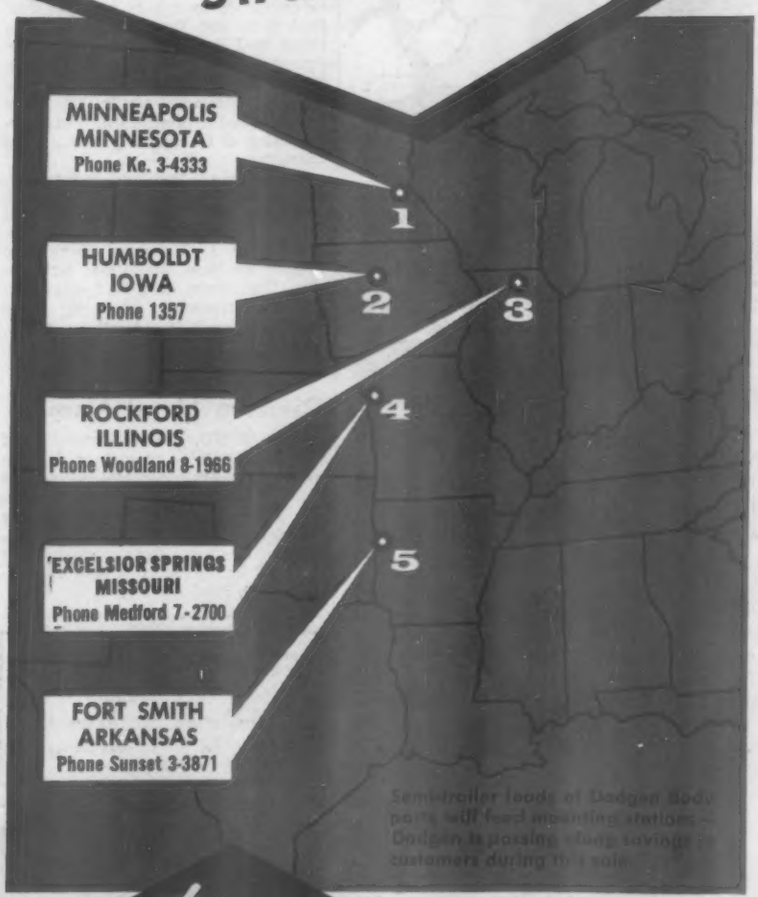
10% CASH OFF DURING OCTOBER* ON NEW DODGEN BULK BODIES TO START LOCAL SERVICE PLAN

* CASH with October order — mounting any time in 1960

SAVE TIME AND MONEY AT 5 **NEW** BULK BODY MOUNTING STATIONS



Included in this body sale are Dodgen All-Purpose bodies (lengths from *8 ft.* to *35 ft.*) and Bulkanizer tank type bodies for which Dodgen is Central States distributor.



ONLY TWO WEEKS LEFT!

Here's your chance to save hundreds of real dollars on the finest bulk bodies in the country!

Not a gimmick or a come-on, we're offering you a full 10% off on cash sales of Dodgen bulk bodies during October to get you acquainted with our new body-mounting stations. And you can have your bulk body mounted anytime up to and including December 31... and still take advantage of this cash discount!

Our new mounting stations are the result of the ever-increasing demand for Dodgen bulk bodies. Increased sales have allowed us to spread our installation, sales and service operations into a wider area.

The five new mounting stations are no more than approximately two hundred miles from any customer in the North Central, Central and South Central states.

So now's the time for you to act. Since we're practically in your back yard now, take advantage of this chance to convert to quality bulk operation with Dodgen equipment — and save money in the bargain!

Phone Humboldt 1357
(or local mounting point telephone shown above)

Dodgen

DODGEN INDUSTRIES

HUMBOLDT, IOWA

Peavey Official Notes Importance of Service

MINNEAPOLIS — "Farmers are not different from consumers in cities and towns—they want service and plenty of it," says Dave Williams, merchandising manager of the Peavey Elevators division, F. H. Peavey & Co., Minneapolis.

"The country elevator manager or the feed dealer who is equipped to provide service is the one who will attract steady customers and show a profit when the yearly statement is compiled."

This view of the importance of service in feed merchandising is supported by a survey undertaken by Peavey Elevators. The 10 highest and 10 lowest Peavey elevators were grouped in these categories: Retail margins obtained per ton, growth in feed tonnage, market saturation and activities and services.

The survey found, almost without exception, Peavey notes, "that the country elevator which provided delivery service, grind and mix service, displayed one or more live exhibits, employed one or more training school graduates, made an average of one or more calls weekly on farmer customers and provided production record information, was the elevator which wound up in the top 10 in each category."

Through its 160 country elevators and 350 independent feed dealers, Peavey is boosting sales of its Peavey Tone Feed line.

While total Peavey feed tonnage sold was slightly lower than the record figure for 1958-59 fiscal year, the feed division showed a small profit, officials note.

"This, from Peavey's standpoint, is most encouraging," officials say, "particularly in view of the fact that many of Tone Feed's competitors showed losses for the fiscal year."

Late in 1959, Peavey executives met in a three-day session at Stillwater, Minn. Called "Project 70," the purpose of the meeting was to discuss types of feeds that will be needed, growth of livestock feeding, supply and distribution, economical manufacturing methods and how the company should plan its feed business—not only for the 1960's but also as far ahead as the 1970's.

Canadian Plant Opens

CLARKSON, ONTARIO — Ralston Purina Co., Ltd., has begun production of its Chex breakfast food and Purina Dog Chows in a new Canadian branch plant here, 15 miles west of Toronto.

Manager of the plant is Lloyd Stringham who started working for Ralston Purina at its Woodstock, Ontario, plant 30 years ago. Until recently he was manager of the plant at Whitby, Ontario, opened three years ago.

Purina operates three feed plants, at Woodstock, Whitby and Montreal, in addition to the cereal and dog food operation.

Cyanamid Names Head Of Field Development

NEW YORK—Dr. Ross G. Brown has been appointed manager of the field development group for American Cyanamid Co.'s agricultural division, it was announced by Dr. Sterling Brackett, director, animal industry development.

Dr. R. G. Brown

Dr. Brown succeeds Dr. William P. Johnson, who was promoted to the position of manager, national feeds account. In 1954, Dr. Brown joined Cyanamid as head of the veterinary investigation laboratory and since 1956 has served as head of the clinical development laboratory for the agricultural division.

He is a graduate veterinarian from Michigan State College and received his undergraduate degree from the University of Missouri.

Before joining Cyanamid, Dr. Brown was a professor in the veterinary pathology department at the experiment station, Lexington, Ky.

Dr. Brown will report to the director of the animal industry development section.

Ohio Feed Committee Adopts 'Action Plan'

WORTHINGTON, OHIO — The feed committee of the Ohio Grain & Feed Dealers Assn., Inc., initiated a "program of action" at a recent planning session.

Included in the program are: (1) A feed man-veterinarian session to be developed by a joint committee of feed men and veterinarians; (2) a retail feed dealer regional clinic designed to deal with practical nutrition, livestock management and other matters, and (3) a nutrition forum built around a program of joint participation of trade and university nutritionists.

Members of the feed committee, headed by Walter Richards, Cortland, are: Elmer Fischer, Minster; Lloyd Siberell, Delaware; Max Kernan, Marion; D. J. Carpenter, Circleville; Robert M. Hess, Massillon; Art Adams, Columbus; Dale Seif, Waverly; Milton Kalmbach, Fostoria; Cleo Heising, Grand Rapids; Donn Early, Cincinnati, and Martin Schultz, Urbana.

Division Head Named

HAMMOND, IND. — Promotion of Jerry C. Crumley to eastern division manager of American Maize-Products Co., corn refining and chemical process organization, was announced by Charles H. Sanford, Jr., vice president, sales.

Mr. Crumley has been district manager with headquarters in St. Paul.

Peebles' Exclusive Storage System Guarantees Year-around Dried Whey Supply

You can always be sure of a plentiful supply of high quality Peebles' Dried Whey products regardless of the season. Western has solved the all-season supply problem with a unique storage system.

During the peak season, millions of pounds of liquid condensed whey are stored in huge tanks that are temperature controlled to maintain freshness and purity. During the off-season, Western can draw on this supply at your convenience.

The product is spray-dried to retain unidentified growth factor benefits and superior protein content. Uniform color and distribution in mixed feeds are assured.

Only Peebles' products can guarantee year-around availability, superior spray-dried processing and unvarying high quality. 32 plants across the country offer convenient service within easy reach.

Write for complete information about Peebles' Dried Whey products and how they can be of profit to you. Address: Dept. 54A.

WESTERN CONDENSING COMPANY
APPLETON, WISCONSIN • World-Wide Supplier of Quality Products
DIVISION OF DAIRIES, INC.

CHARLES H. HUBBELL
Feed Consultant
Formulation and Research
678 Lee Street Des Plaines, Ill.
Phone CYpress 9-2441

REMEMBER TO ORDER
CHASE BAGS
There's None Better!

"Vantress Cross" MEANS
Originality – Specialization – Progress

PRODUCTION EFFICIENCY

CONSUMER QUALITY

1. ORIGINALITY–

Chas. Vantress Farms originated the modern theory of cross breeding for production of meat type chickens. (Separation of Male and Female Lines and taking proper breeding direction for each line.)

Chas. Vantress Farms originated and developed the birds to fit the modern theory, demonstrating the soundness of the theory and value of the stock developed, through winning the famous — National Chicken of Tomorrow contests.

2. SPECIALIZATION–

Chas. Vantress Farms are now dedicated to the specialized business of Male Line Breeding ONLY.

Chas. Vantress Farms are non-competitive with customers and are a protection to all customers by assuring them of equality in male line breeding stock with all other Vantress Customers. **Chas. Vantress Farms does not engage in any other phase of the meat chicken business.**

3. PROGRESS–

Substitute cockerels for breeding are available from at least a dozen sources — "the woods" are full of sources who offer males, but the Chas. Vantress program of Applied Genetics originated **(1) the theory, (2) the birds and (3) the system of pedigree breeding for meat production improvement** and is the fountain head source for male line breeding cockerels now and for the future.

The Chas. Vantress program is dedicated to breeding gains for producers, processors and consumers.

Chas. Vantress Farms, Inc.

DULUTH, GEORGIA

Power Shovel Buy!

This little 286 pound powerhouse will astonish you with its pulling force of more than 1300 pounds and work output of 100 tons per hour.

Dollar for dollar the rugged STOHR ROTO SHOVEL gives you more . . . the ease of handling, capacity, and dependable, money-saving results . . . than other power shovels costing nearly twice as much.

One man handles it with ease. You get instant, push-button stop-start action you can count on. Because it's completely portable you wheel it from job to job . . . fold back the retractable wheels when it's in use.

Contact us for the whole story on this remarkable STOHR ROTO SHOVEL

Seedburo EQUIPMENT COMPANY

618 W. Jackson Blvd. Dept. FS-10 Chicago 6, Illinois

"Why Kasco® has been my best-seller for nearly 20 years"

"As a matter of fact, we have been a carload buyer of Kasco for years," says Mr. Lester Calvin, owner-distributor of Kennel Products, Caldwell, New Jersey. "And we've been doing a big job with Kasco since 1942," he adds.

There's a sound reason for Mr. Calvin's consistent success story with Kasco. *It delivers the profits.* Year after year, Kasco builds a steady profit business because it guarantees satisfaction to both buyer and dog.

Kasco Meal provides one third more feedings per pound than other types of dog food—because it's concentrated. You can pocket the savings, it's true—but it also gives dogs complete nutrition—all their lives—so that Kasco buyers keep coming back for more.

That's why the Kasco story is a success story. Tell your next customer about Kasco. Take Mr. Calvin's word for it, you'll both profit from the deal.

BEST FOODS DIV. of Corn Products Company

★ Buy and Sell Through WANT ADS ★

Vitamin A Liver Storage In Pullets and Hens

By Hobart R. Halloran
Halloran Research Farm
Modesto, Cal.

Three levels of vitamin A were fed to laying hens and pullets in production (Kimber K-137's). Two ages of birds were used, 19 months and 9 months.

A depletion diet practically devoid of vitamin A was fed for six weeks in order to reduce liver storage of vitamin A. The hens had previously been receiving a diet containing approximately 6,000 International units of vitamin A per pound during the growing and prior laying periods.

Liver samples were taken from both the pullets and the hens at the start of the depletion and after 2, 4 and 6 weeks. At this time, groups of 25 birds were distributed as shown in Table 1. Therefore, there were quadruplicate groups of each treatment at each age level.

The basal diet was a milo, soybean meal, egg-tested cottonseed meal type of a formula with 80 lb. of a mixture of dehydrated alfalfa and sun-cured alfalfa meals per ton. The two alfalfa meals were tested each time for the pro-vitamin A content and blended in order to supply 2,000 International units of vitamin A per pound to the basal ration. The basal feed was mixed approximately every two weeks and was stored at 55°.

As indicated in Table 1, the additional vitamin A added was 2,000 and 6,000 International units per pound. This was supplied from a stabilized commercial vitamin A source on the basis of analyzed potency. The test diets were fed for 12 weeks.

The birds were housed in individual cages and daily individual egg productions were kept. The birds were fed in groups of 25, and records of feed consumption were kept for these groups. Feed conversions were determined.

Egg quality evaluations were made every two weeks. The measurements included individual egg weight, albumen height, Haugh units, shell thickness, blood spots, and observations.

Results and Discussion—A summary of the egg production and feed conversion results is shown in Table 2. During the 12-week feeding period, there was no effect of the various levels of vitamin A on these measurements.

There were no differences in average weights of eggs, albumen heights, Haugh units, shell thickness or blood spots among any of the groups.

Representative samples of livers were analyzed after 6 and 12 weeks for vitamin A content. The hen and pullet results are shown in Tables 3 and 4. Figures 1, 2 and 3 graphically show the liver storage results. The depletion periods are shown in each case.

Extending the depletion lines indicates that full depletion would have resulted after 2-3 weeks more (8-9 weeks after start of depletion) in the hens and 5-6 weeks more (11-12 weeks after start of depletion) in the pullets. However, including the 2,000 units of vitamin A from the alfalfa meals reduced the slope of the depletion line. The average liver in the basal group would have contained practically no vitamin A if the test had been continued one or two more weeks.

Some birds in each group had practically no retained vitamin A after 12 weeks on the basal ration as shown by the lowest individual vitamin A

TABLE 1. Experimental Outline

	Treatment	International Units of vitamin A/lb.	Source of vitamin A	—No. of replicates— of 25 birds each Hens	Pullets
(1.)	Basal	2,000	Alfalfa meals	4	4
(2.)	4,000 unit level	2,000	Alfalfa meals		
		2,000	Stabilized vitamin A	4	4
(3.)	8,000 unit level	2,000	Alfalfa meals		
		6,000	Stabilized vitamin A	4	4

TABLE 2. Egg Production and Feed Conversion Results

	Hens				Pullets			
	International Units of vitamin A/lb. ration				International Units of vitamin A/lb. ration			
	2,000	4,000	6,000		2,000	4,000	6,000
Egg production %	55.6	55.7	55.7	Egg production, %	77.6	77.0	77.5
Feed conversion, lb. feed/dozen eggs..	5.16	5.32	5.27	Feed conversion, lb. feed/dozen eggs..	3.83	3.90	3.94

FIGURE 1

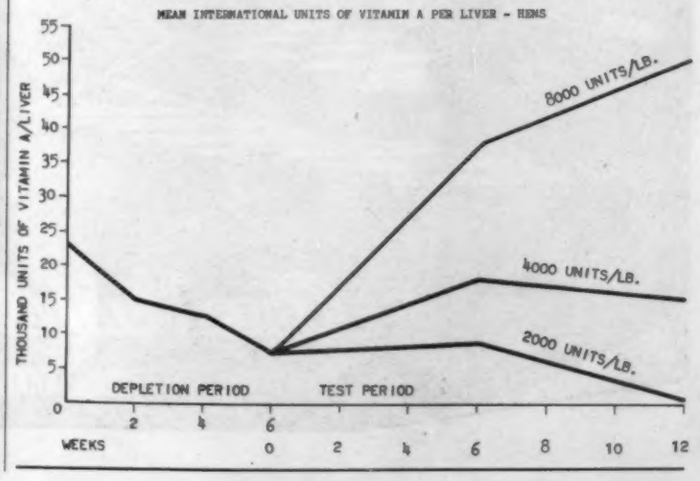


FIGURE 2

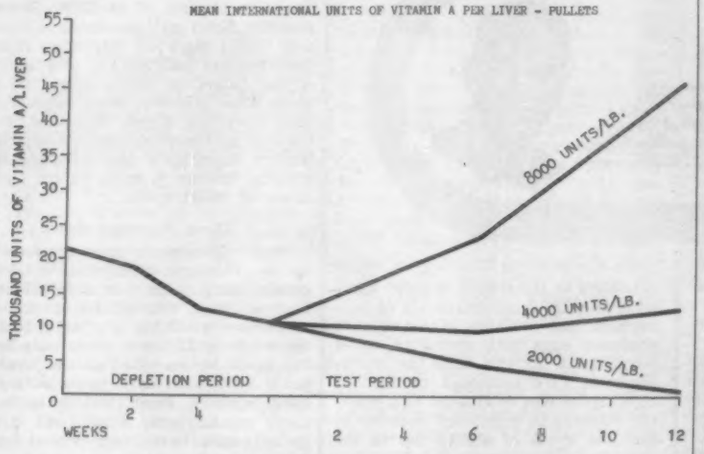


TABLE 3. Vitamin A Content of Livers
Hens
(Expressed in International Units of Vitamin A/Liver)

Time	No. livers for each treatment		Time	No. livers for each treatment	—International units of— vitamin A/lb. ration 2,000	4,000	6,000
Depletion:			Test:				
Start	3	23,300	Start	4	7,100	7,100	7,100
2 weeks	3	14,800	6 weeks	4	9,050	18,200	38,200
4 weeks	3	12,700	12 weeks	12	*1,250	15,450	50,750
6 weeks	4	7,100					

*One of the 12 livers in the 2,000 units treatment assayed 77 units/liver.

TABLE 4. Vitamin A Content of Livers
Pullets
(Expressed in International Units of Vitamin A/Liver)

Time	No. livers for each treatment		Time	No. livers for each treatment	—International units of— vitamin A/lb. ration 2,000	4,000	6,000
Depletion:			Test:				
Start	3	20,900	Start	6	10,500	10,500	10,500
2 weeks	3	18,600	6 weeks	4	4,350	9,600	23,000
4 weeks	3	12,600	12 weeks	12	*780	12,800	45,900
6 weeks	6	10,500					

*One of the 12 livers in the 2,000 units treatment assayed 88 units/liver.

value of 88 units/liver in one hen and 77 units/liver in one pullet.

With the 2,000 units basal level, the mean amount of vitamin A retained (hens and pullets) was only 12% of the value at the start of the test.

Theoretically, the average bird on the 2,000 unit level would have enough vitamin A for only 1 to 3 days if she were put on a ration lacking vitamin A. The effects of respiratory diseases and other stresses under these conditions should be studied.

The effect on egg production of the low vitamin A intake and the low liver reserves should be tested. The relationship of liver storage and vitamin A utilization with egg production could be determined, especially in birds in higher production under various stresses.

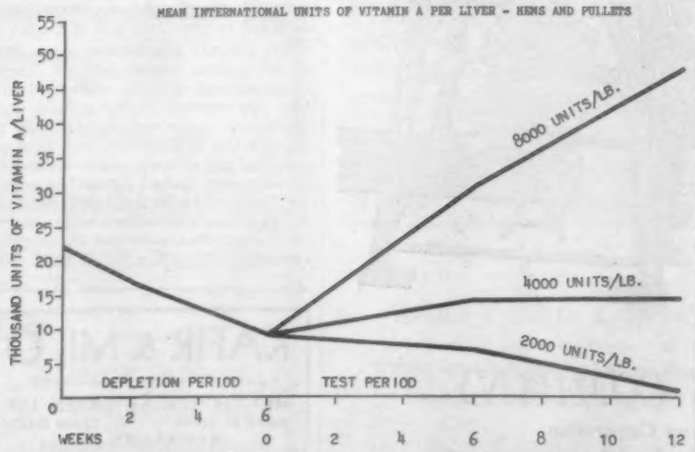
The inclusion of 2,000 units per pound from the stabilized vitamin A product (4,000 units/lb. total) resulted in a slight increase in the amount stored. The average bird theoretically had enough vitamin A at the start of the test for 18 days on a vitamin A-deficient ration. After receiving the 4,000 unit level for 12 weeks, a hen could theoretically go for 28 days with no vitamin A.

The additional 6,000 units (8,000 units/lb. total) resulted in substantial liver storage of vitamin A, a five-fold increase during the 12-week test period.

The birds were exposed to normal stresses of hot weather with a fog-

(Turn to VITAMIN A, page 86)

FIGURE 3



AUBREY FEED MILLS
RED A FEEDS
LOUISVILLE, KENTUCKY
SERVING THE GREAT SOUTHEAST

YOUR POULTRY AND LIVESTOCK FEEDS NEED

U.S.I. DL-METHIONINE

Modern high-energy feeds need the essential sulfur amino-acid, U.S.I. DL-Methionine. This vital nutrient helps your customers to get more economical production from their poultry and other livestock. You get the top-quality, fully active amino-acid from U.S.I., pioneer producer of methionine.

Quick overnight delivery of DL-Methionine is assured when you buy from U.S.I. Warehouse stocks in major feed manufacturing areas provide you with prompt service. Order today.

For service and supply call U.S.I. at the nearest office below

Atlanta: 2713 Springdale Road
East Point, Georgia, POplar 6-8039
Baltimore: 200 East Joppa Road, VAlley 5-1141
Boston: 150 Causeway Street, CApital 7-8140
Chicago: 624 S. Michigan Avenue, WAbash 2-1650
Cincinnati: 3317 Glenmore Avenue, MOntana 2-1222
Cleveland: Rockefeller Building, CHerry 1-0073
Detroit: 1448 Wabash Avenue, WOodward 1-4220
Kansas City, Mo.: 903 McGee Street, VIctor 2-2413
Los Angeles: 1901 West 8th Street, DUnkirk 8-1423
Louisville: 7th & Bernheim Lane, MElrose 6-2511
Minneapolis: 2429 University Ave., S. E.,
FEderal 2-7311
New Orleans: 708-9 Maritime Bldg., JAckson 2-0521
New York: 420 Lexington Avenue, OXford 7-0700
Philadelphia: One Bala Ave., Bala Cynwyd, Pa.
MOhawk 4-5110
San Francisco: 220 Montgomery St., EXbrook 7-3250
St. Louis: 1401 Brentwood Blvd., WOodland 1-4400

U.S.I. INDUSTRIAL CHEMICALS CO.
Division of National Distillers and Chemical Corp.
99 Park Avenue, New York 16, N. Y.

Also manufacturers of MOREA® pre-mix, sold only to authorized mixer-distributors for ruminant feeding.

Putting Research To Work

BY SPENCER H. MORRISON, PH.D., D. V. M.

Blood Spot Incidence in Chicken Eggs and Vitamin A Level of the Diet.

● G. E. Bearse, C. F. McClary and H. C. Saxena, Western Washington Experiment Station, Poultry Science, Vol. 39, No. 4, pp. 860-865, July, 1960.

ABSTRACT

Although periodic investigations of nutritional effects influencing blood spot incidence in eggs have been made from time to time, most of them have been unrewarding. In certain instances, supplementation of the diet with fresh range grass or dehydrated alfalfa has seemed to lessen the trouble.

Attempts to supplement the diet with vitamins to avoid the trouble have not generally reduced the numbers of blood spots. However, 20 years ago Western Washington workers noted in the course of some work with vitamin A requirements of laying hens that diets low in this vitamin produced eggs with numerous small blood spots. At this time the occurrence of the increased number of blood spots was attributed to a possible vitamin K deficiency because of the low levels of alfalfa fed in the experimental rations.

Subsequently, it was indicated by this group that low vitamin A itself might be the possible source of the condition (Bearse et al. 1953). More recently, Scott and associates at Cornell (1957) reported that when hens were fed less than 800 I.U. of vitamin A per pound of ration more blood spots were observed than when the hens were fed higher levels of the vitamin. It therefore seemed wise to further investigate the influence of varying vitamin A levels on the incidence of blood spots.

Three Experiments

Three experiments were conducted by the Western Washington investigators using a total of 2,256 White Leghorn hens randomized according to number available into equal litter floored pens. Different diets were fed but could be described as the mash-grain type with 60% mash (wheat, oats, soybean meal, and/or barley, corn, meat scrap type) and 40% grain (oats, barley and wheat-four rations, 1 ration-oats and corn) being fed.

In the first experiment vitamin A was added to the basal mash in varying amounts and during the first 168 days all the levels were below the 2000 I.U. per pound requirement for vitamin A established by the National Research Council (1954). Assays established that the levels fed were: 553, 758, 816, 962, 1,198, and 1,579 U.S.P. units of vitamin A per pound of ration. Blood spot observations were made on all eggs laid on two consecutive days after the birds had been on the rations for 103 days, and on all eggs laid on four consecutive days after 145 days on the rations.

After 168 days on the above diets, changes were made in the vitamin A levels of the rations, and for 84 days quadruplicate lots received 1,115, 1,665, 2,265 U.S.P. units of vitamin A per pound of ration. A third blood spot observation was made on the eggs produced during the last five days of the trial.

The results of the first experiment showed that during the first part of the trial that blood spot incidence tended to decrease as the level of vitamin A rose from 553 to 1,579 units per pound, with one exception. Statistical analysis showed that the 553 unit level was significantly different from the other levels of vitamin. In the second part of this trial significantly higher percentages of blood spots were observed for the 1,115 unit level as compared with the other two levels.

The second experiment involved several different phases as follows: All birds were fed a vitamin A depletion ration for 26 days; then all birds were fed a diet containing approximately 1,400 U.S.P. units of vitamin A per pound of ration for 112 days and observations were made on blood spot incidence during the last five days of this period; then all birds were fed another vitamin A deficient ration for 19 days, during which blood spot observations were made for the last six days; after the final depletion period, diets containing approximately 910, 2,270, 3,630 and 9,980 U.S.P. units of vitamin A per pound were each fed to triplicate lots of birds.

The vitamin supplement was a stabilized gelatin coated product. These supplemented rations were fed for four and one-half 28-day periods, during which eggs laid on the last 14 days of the first period and six days near the end of each of the remaining periods were broken out and observed for blood spots. When the feeding of the experimental rations was concluded, the 12 pens were fed the regular station laying ration for 61 days. Fol-

MEET THE TREND TOWARD GRAIN EXPANDING WITH THE ANDERSON EXPANDER

Today there is a definite trend toward the use of cooked and expanded grains in various feed formulas. Pellet type or kibbled foods have won instant approval because they are convenient in size and contain nutritional values.

The heart of the expansion process is a grain expanding machine which Anderson has manufactured and sold since September, 1954. Now we have a completely new Expander already in operation in several fields with capacities ranging from one to two tons per hour.

By ideal conditioning of raw materials you are assured of a product that you want in your formulas. With the new Expander you can convert the starches in grains such as wheat, corn, rice, milo, etc., into a uniformly tender, crisp and highly palatable product.

Anderson services available are process engineering, procurement of complete plant equipment, erection supervision, startup assistance, periodic consultations with field personnel and strategically located parts depots.

We will be glad to send you complete information without obligation.

THE V. D. ANDERSON COMPANY

division of International Basic Economy Corporation

1944 West 96th Street Cleveland 2, Ohio

KAFIR & MILO

Largest Dealers in Southwest

MID-CONTINENT GRAIN CO.

Board of Trade Victor 3-4671

KANSAS CITY, MO.

lowing this, the eggs produced during a seven-day period were also observed for blood spots.

Results

Results of the second experiment showed that before the birds were fed the final depletion diet they were in a low state of vitamin A storage averaging 11.5 U.S.P. units per gram of liver. Assays following the feeding of the final depletion diet showed 2 U.S.P. units per gram of liver.

Blood spot incidence increased between these two periods for each of the four groups of pens. The feeding of 910 U.S.P. units per pound of ration to hens depleted of vitamin A failed to stop this rise in per cent of blood spots immediately. An increased number of blood spot eggs were recorded for the first period observation after the birds had been on the 910 unit level of the vitamin from 14-28 days. Subsequently, there was a slight reduction in number of blood spots, but it never became lower than for the depletion period. Levels of 2,270 units or higher of the vitamin caused a decrease in blood spot incidence over the depletion period. This effect was noted at the end of the first period for the two higher levels, and at the end of the second period for the 2,270 U.S.P. unit per pound level.

During the 61 days on the regular station diet (containing approximately 8,650 U.S.P. units of vitamin A per pound) the eggs of the birds which had been on the 910 unit level dropped from 19.6% blood spots to 3.47%, while the incidence on the other rations remained about the same.

Birds on the 908 unit level failed to increase liver storage during periods of supplemental feeding, while those on higher levels increased liver storage; the higher the level, the greater the storage.

In the third experiment, hens previously fed a ration containing about 5,000 USP units per pound of vitamin A were randomized into four pens containing 163 birds. After observing the blood spot incidence for 25 days, two of the pens were supplemented with 10,000 units of the vitamin per pound of feed. After four weeks all eggs laid on three consecutive days were broken out and observed for blood spots. The results showed that there was no indication that supplementing a 5,000 USP units of vitamin A diet with an additional 10,000 units reduced blood spot incidence further.

COMMENT:

Good dope for feed manufacturers, especially those relying upon alfalfa meals, etc., as source of vitamin A in the diet for laying hens.

If you are troubled with blood spots it might be wise to include some source of stabilized vitamin A in the rations. Many people consider that the incidence of blood spots is directly related to proper breeding and management of the birds since a rupture of the small blood vessels in the ovarian follicle is usually involved.

However, there is also some persistent belief that diet influences the incidence even though genetic weakness and management conditions predispose. Not only is vitamin A apparently important but certain other factors may be also important. For example, other work at the Washington station shows that increasing the energy from 1,115 to 1,450 metabolizable calories per pound will result in a significant increase in blood spots (1958). The blood spot rate was lower on 14% diets than with 16 or 18% protein laying rations. This was true when both the energy level and vitamin B_{12} levels were changed.

In this study it was also shown that the addition of 30 mcg. of vitamin B_{12} per pound of ration significantly increased the number of blood spots. A later report (1959) from this same group showed that feeding high levels of vitamin B_{12} to laying hens in individual cages that had been on a low vitamin B_{12} basal ration failed to change the incidence of blood spots. Vitamin B_{12} was also ineffective in changing the blood spot incidence when added to low vitamin B_{12} rations fed to group caged layers.

A recent report from a commercial laboratory (Heterochemical Co.) showed reduced incidence of blood spotting with commercial layers fed 4 gm. of "stabilized" menadione sodium bisulfite per ton of feed. We can expect further reports concerning this finding from the colleges in the near future.

GMI DIVIDEND

MINNEAPOLIS—The board of directors of General Mills, Inc., has declared a dividend of 30¢ per share on General Mills, Inc., common stock, payable Nov. 1, 1960, to stockholders of record Oct. 10, 1960. This is the 129th consecutive quarterly dividend on General Mills common stock.

Elevator Management Clinic Plans Reported

WORTHINGTON, OHIO — Plans for an Elevator Management Clinic to be held Jan. 17-19 in Columbus have been announced by the Ohio Grain & Feed Dealers Assn., Inc.

The class of June, 1960, composed of 42 young managers, will enroll for Management Series B, step No. 2 in the completion of a five-step management training program.

It also was announced that a new class, January, 1961, will be started at the same time. Tentative plans are being made for enrollment in Series A.

Tom Nelson and Paul Stokes, of the management consulting firm of Rogers, Slade & Hill, New York, will develop the practical program of functional management.

Enrollment will be limited for the class of January, 1961, to 40 elevator managers. It will be on a "first come, first served" basis.

THE LINE OF LEADERSHIP

Amburgo

DISTRIBUTORS and SERVICE for

FIDY

Fleischmann's Irradiated Dry Yeast

The quality and economical source of Vitamin D-2 for 4-footed animals. Every particle contains Vitamin D-2, thereby insuring splendid distribution.

THE AMBURGO CO., INC.
1315-17 Walnut St., Phila. 7, Pa.
AMBURGO "WEST"—3862 E. Sussex Way, Fresno, Calif.
AMBURGO "CENTRAL"—Amburgo Mfg. Co., Inc., Hope, Indiana

"It's good business to do business with Amburgo"

sleek...
trim...
and perfectly coordinated!

That's our new 300,000 sq. ft. multiwall bag plant at St. Marys, Ga.

Like the building itself, our equipment is new and the very latest in mechanical efficiency.

This fully integrated plant has every facility for turning out every kind of multiwall bag ... open mouth or valve, sewn or pasted, stepped-end, and our own patented Kraft-lok® valve; also bags with special inserts, sleeves, protective linings or outers, and vapor barriers.

The best in multiwall bags—are Kraft Bags!

... and the best in open mouth bag filling machines is The Kraftpacker, for which we are exclusive sales agents.

Paper Mill at St. Marys, Ga.

KRAFT BAG CORPORATION
Gilman Paper Company Subsidiary
630 Fifth Avenue, New York 20, N. Y.
Daily News Building, Chicago 6, Ill.

☐ We would like to know more about Kraft Bag Multiwalls.
☐ We would like to know more about The Kraftpacker.

COMPANY NAME_____
ADDRESS_____
CITY_____ ZONE____ STATE_____
PRINCIPAL_____
PRODUCT MFD._____

JOE BROOKS

BY AL P. NELSON

It Pays To Figure

While Pete Burnside was drinking his cup of coffee and eating fresh coffee cake in his kitchen that crisp fall morning, plump Mrs. Burnside sat reading the latest issue of the Hansen's Creek Butter & Poultry Gazette, which she had just fetched from the mail box.

"Oh, Pete," she said, "Mary Rodman is going to marry John Kamarck, it says here. The way she chased that Jim Andrae, I thought she'd land him sure."

"Oh, women," said Pete, his mouth full of coffee cake. "A man can never figure them out."

"What do you know?" exclaimed his wife, Hannah, "Mrs. Steve Weske had a baby boy at St. Vincent's yesterday. Well, that's one I didn't hear about before."

Pete chuckled, "Yeah, you women keep pretty close check on a lot of things, I guess."

"Pete!" exlaimed his wife. "Look at this ad Joe Brooks is running this week. What in the world do you suppose he means by it?"

"What ad?" asked Pete.

His wife breathed hard. "Joe as'·s the question, 'Which brings more money to the farmer today—a 200-lb. hog or a 7-lb. hen?' And Joe offers 10 prizes from $10 down to 50¢ for the best worked out cost figures on the subject by next Friday night!"

"Why, Joe is crazy?" said Pete with considerable feeling. "You can't compare a 7-lb. hen with a 200-lb. hog."

"Are you sure?" asked his wife. "You haven't figured it out yet."

"I don't need to figure it out!" Pete shouted. "How can a measly 7-lb. hen produce more profit than a 200-lb. hog?"

Mrs. Burnside's plump face went rigid. "Are you calling my Leghorn hens measly, Mr. Burnside?" she asked. "Be careful of your language. Just remember that we eat a lot of eggs. And when we go to the store we get quick cash or trade for our eggs. We don't have to wait month after month to get our money from my laying hens, like we do when you raise hogs and we wait until marketing time."

Pete Burnside stiffened. "Are you insinuating, Hannah, that I am a darn fool for raising hogs?"

"I didn't say anything like that!" said Hannah.

"But you meant it. I know you. I ain't lived with you for 20 years for nothing. I can read your mind."

"You're lying and you know it."

Pete sniffed. "Well, if this is gonna be a fight, give me another cup of coffee and another slice of coffee cake."

"I will not. Get your own coffee. And I hid the coffee cake. If I didn't you'd finish it all at once."

Pete's face whitened. "You mean I'm a hog like my hogs?" he asked.

Mrs. Burnside sighed in exasperation. "There you go, always tryin' to put more meaning into what I say than I do."

"Well, I don't like to be nagged, that's all."

Now it was Mrs. Burnside's turn to lift her eyebrows. "Nag? Why, Pete Burnside, you know I never nag. Can't I even give you a word of advice now and then without you calling it nagging? Are you that bullheaded?"

Pete's face got red. "I am not bullheaded."

"Well, you come from a family of bullheads. You can't deny that."

Pete breathed hard. "All right, Hannah. We got an argument going. And there has to be an answer. You go figure up how much it costs you to raise a hen and what profit you get from her over a 7-month period. I'll do the same for my hogs. Then we'll have the answers."

"All right," Mrs. Burnside's lips were set in a firm line. "But don't you cut out any of your costs."

Pete flung up his hands, bit his lip and headed for the door. "Women!" he said, as if that word and the way he uttered it contained all that could be said about that sex.

The morning went fast. Pete waited for five minutes after Hannah rang the dinner bell, then he came in to a skimpy lunch of cold pork, dill pickles and milk.

"No coffee?" he asked, disappointed.

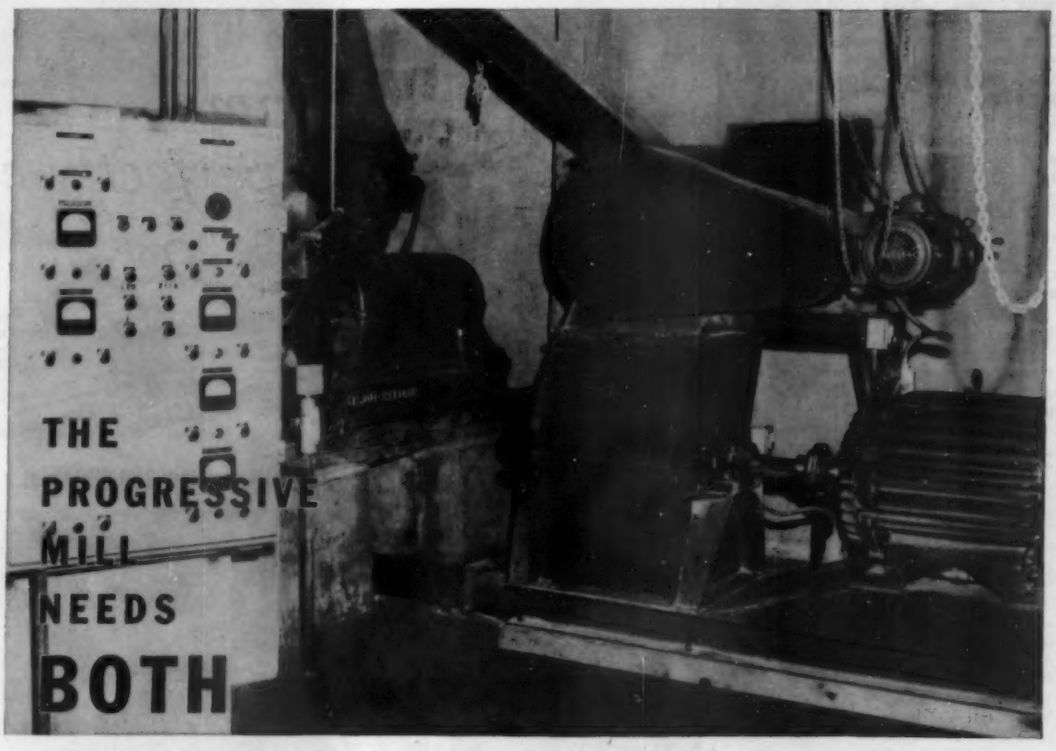
"I was too tired to make it. I just got through figuring. Besides milk won't hurt you."

"I know it won't."

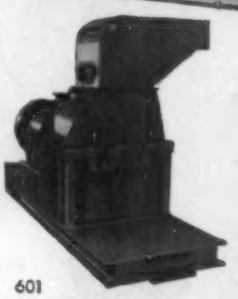
They ate in silence. Then Pete said, "Well, what figures did you come up with?"

A charge of energy flushed Mrs. Burnside's face.

"Well," she said, "I figured an average market price of 45¢ for the eggs. Cost of producing a dozen eggs came to 21¢ a dozen, including feed, water and electricity. This means a profit of 24¢ per dozen. I multiplied this by 12 doz. eggs which my average hen produces over seven months, and it comes out at $2.88 profit for one little itzy bitzy hen, and she's



ATTRITION AND HAMMER MILLS FOR GRINDING



Sprout-Waldron gives you the sure way to produce and control today's wide range of grinds for best feed formulation and pelleting results.

Granular grind, soft grind or pulverization may be needed to impart the best characteristics to your various feeds, or to get the best results from your pellet mills. Each type of grinder has features that make it better for certain products and quality of grind.

If your requirements involve large capacity grinding of small grains especially suited to pellet formulations, nothing can compare with the soft grind of the attrition mill.

For a general purpose mill, where products ranging from ear corn to oats must be ground from extremely coarse to very fine, and frequent screen changes are essential, the hammer mill has many outstanding advantages.

You'll find it will pay you to confer with Sprout-Waldron on your grinding requirements. Sprout-Waldron offers you both attrition and hammer mills of proved dependability. *Write for bulletins 144 and 114A.*

601

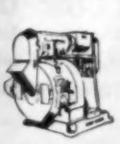
SPROUT, WALDRON & CO., INC.

MUNCY, PENNSYLVANIA, U. S. A.

SPROUT-WALDRON OFFERS YOU AMERICA'S MOST COMPLETE LINE OF FEED MILLING EQUIPMENT

BULK TRUCKS

FEED DRESSERS


PELLET MILLS

ROLLER MILLS

MIXERS

PNEUMATIC SYSTEMS

CUTTERS

so easy to take care of." Mrs. Burnside straightened proudly.

Pete blinked and looked quickly at his figures. "Well, I put my feed and management down at $20 per hog as close as I could work it out. With hogs at $14 that would make $28 00. So I would make $8 profit on a hog as against your $2.88 profit on a hen."

"Wait a minute, Pete!" exclaimed h's wife. "Didn't you pay $6 each for those feeder pigs? Have you got that cost in there?"

"Well—no, but on the other hand I charged in my own corn at full market price. I got a profit on my corn this way, too, and a profit on the pig. So that evens out a little."

"No, sir," said Hannah. "It cost you at least $25 to raise that hog including feeder pig price, veterinary care, etc., so you've only got $3 profit on the present market."

Pete's face got red. "Well, I still beat you by 12¢!" he roared angrily. "I won."

Suddenly, Mrs. Burnside began to laugh. In fact she laughed so hard that tears came to her eyes. "Oh, Pete!" she cried. "Just 12¢ difference between our profits. Anyway it makes us sound kinda foolish, doesn't it?"

"No," said Pete. "It doesn't. Thanks to Joe Brooks, we know now what it costs us to raise one hog and one hen and the profit we make on each. It shows me what we gotta do."

"What?" asked Hannah.

"Well," Pete said practically, "we've gotta cut costs, that's what. When the hog prices go up and when egg prices go up, we make more profit. But if we cut our costs, we make so much more. Hannah, let's watch those costs more carefully."

"Okay," smiled his wife. "Let's celebrate. Want a piece of coffee cake? I think I remember where I hid it."

"Good," grinned her husband. "I could eat two pieces. Arguing uses up all my vitamins."

As Pete dug into a big slice of coffee cake, his wife said, "You're really not stubborn, Pete." Then she said sweetly, "Except—except when you can't get your own way, and then, darn it, I just feel like standing you on your ear."

Poultry Study Made

SPRINGFIELD, MO.—A group of southwest Missouri agricultural officials and business leaders recently toured the poultry producing areas of Iowa to gather information for improving the poultry industry here, it was announced. The five day tour covered 1,450 miles.

The tour was arranged by the Iowa Extension Service and was guided by Leonard Eggleton, poultry specialist from Iowa State University, Ames. Included in the tour were operations from 1,000-15,000 birds. The flocks ranged from completely automatic operations to those operated entirely by manual labor. Quality and cooperative marketing systems were also studied.

Among those making the trip was Terry Palmer, MFA Milling Co.

SUCTION FAN—Francis H. Clute demonstrates operation of new conical impeller suction fan he has invented and patented.

Inventor Patents New Fan for Feed Movement

ROCKY FORD, COLO. — Francis H. Clute, Colorado inventor, has announced the development of a patented conical impeller suction fan, which he says will "revolutionize the handling of material under suction."

The fan, rated by engineers as 75-80% efficient, is used for moving materials in non-positive suction air conveying system.

Mr. Clute said that the fan obtains "tremendous" suction power because its operation principle is like that of an airplane propeller. It has a runner 6½ in. wide and 24 in. in diameter; it runs at 2 400 rpm. powered by a 20 h.p. motor, and it conveys 22 000 cu ft. of air per minute through an 8-in. suction pipe.

Mr. Clute says the new fan will make it possible to economically convey feeds by air in feedlots.

Engineers Working On Weighing System For Trucks in Motion

LEXINGTON, KY.—Engineers here at the University of Kentucky are on the track of developing a reliable electronic system for weighing trucks and other vehicles in motion.

The application of dynamic weighing to the feed and grain industries has its possibilities, and David K. Blythe, head of the university's civil engineering department, suggests: "If the grain and feed industries have any peculiar problems (related to weight recording), we would appreciate knowing them so that our studies might be directed toward resolving them in the design of our dynamic weighing system."

Mr. Blythe notes that electronic scales have been used for weighing vehicles in motion in several states on an experimental basis. Results of these studies have shown that static (motionless) weighing by electronic scales is as accurate as, if not more accurate than, weighing by conventional lever systems. "However, dynamic weighing presents some additional problems over static weighing," Mr. Blythe says, "and our project is concerned with these problems."

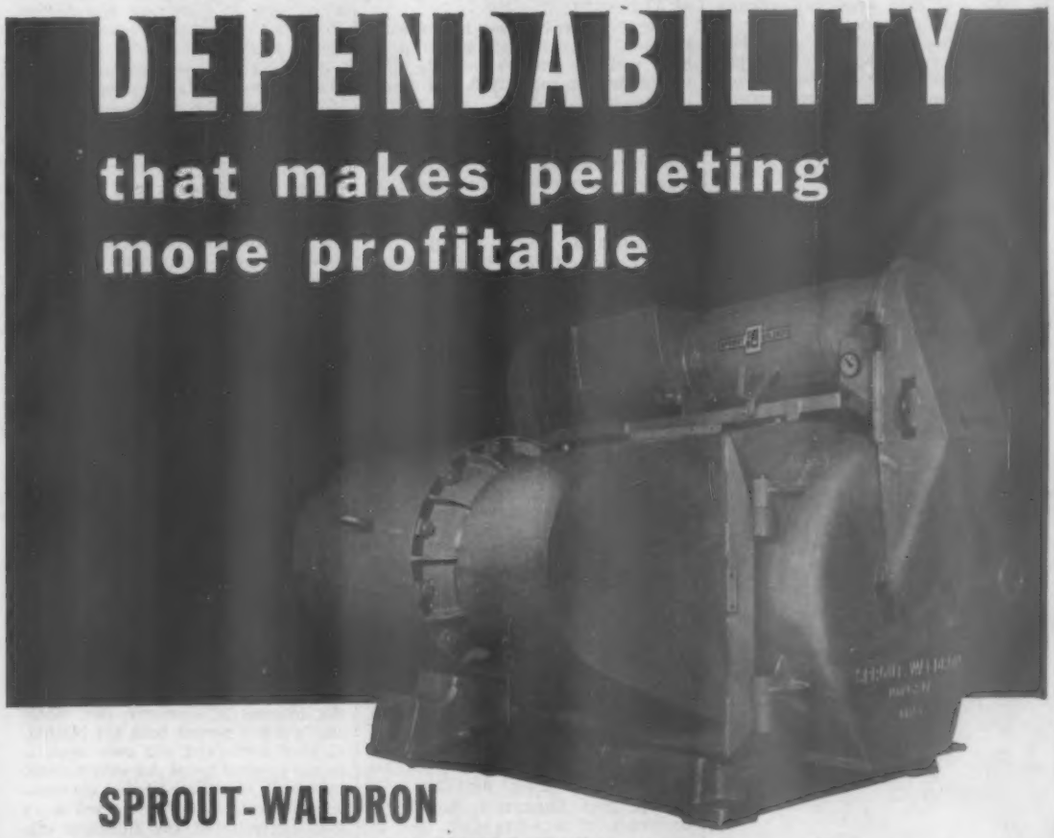
Beef Grading Meeting To Be Held Nov. 14-15

KANSAS CITY, MO.—The dates of Nov. 14-15 have been selected for the special industry-wide conference on beef grading, to be held in Kansas City.

Dean Brown, Santa Maria, Cal., chairman of the conference, said that nearly 300 cattle and beef industry leaders are being invited to participate. Speakers will represent all phases of the "beef team" from the rancher to the consumer.

Mr. Brown, who heads the special beef grading study committee of the American Cattlemen's Assn., said the meeting will explore the over-all history and current aspects of beef grading. Various segments of the industry will be asked to formally present their views.

DEPENDABILITY
that makes pelleting more profitable



SPROUT-WALDRON
ACE PELLET MILLS

As the pioneer in the design of the vertical ring die machine, Sprout-Waldron pellet mill leadership has continued through the years to provide the utmost in dependability with design features which insure the best in quality pellets at maximum production rates and lowest operating costs.

Whatever your needs may be for a pellet mill — or auxiliary equipment — it's definitely to your interest to write for details on Sprout-Waldron Ace Pellet Mills.

Request Bulletins 165-A and 100-A.

Sprout-Waldron pioneered the ring die design

SPROUT, WALDRON & CO., INC.
MUNCY, PENNSYLVANIA, U. S. A.

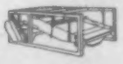
600

SPROUT-WALDRON OFFERS YOU A COMPLETE LINE OF EQUIPMENT FOR PROFITABLE PELLETING

CRUMBLIZERS

PNEU-VAC SYSTEMS

COOLERS


GRADERS

TOUR RESEARCH FARM—Recent dedication of Ralston Purina Co.'s new dairy research unit at the St. Louis firm's Gray Summit, Mo., research farm included a tour of hay storage and pen stable area (first picture), feeding room of milking parlor building (second picture) and calf barn (third picture). Purina's new unit also includes a maternity and test cow barn.

Dairy Calf Growing Emphasized in Tests At Feed Firm's Farm

GRAY SUMMIT, MO.—How fast can dairy calves be grown? How fast is too fast?

Many dairymen are accepting the theory that dairy heifers should be bred by weight rather than by age, so why shouldn't this breed-by-weight theory be followed even when an exceptionally fast-developing heifer calf comes along?

What is the proper level of protein to feed milking cows?

Should cows on lush summer pasture go without grain supplement?

An answer for each of those questions, based on results of private research conducted by a feed manufacturer, was given when Ralston Purina Co. of St. Louis recently dedicated its new dairy research center here with an open house tour (Feedstuffs, Sept. 17).

The first question wasn't answered with a definite "speed," but personnel at the Purina research farm did indicate that the maximum growing rate more than likely is faster than many dairymen have felt possible in the past.

J. C. Thompson, manager of Purina's dairy research, emphasized the importance of the "time factor" between birth and freshening. He said dairymen should become more conscious of the costs involved during the non-productive part of a cow's life.

"We feel that when calf-starting experiments indicate self-feeding of concentrates, they should mean just that and not that the calf starter has been limited to 3 or 4 lb. per calf per day," he commented. "We recommend free choice consumption of our dry calf starter to four months. Some calves will eat as much as 8-10 lb. per day during the fourth month, but feed conversion is very respectable.

"And, incidentally, why shouldn't calf starting experiments include feed conversion figures similar to those in swine, beef cattle and poultry? We think they should."

Mr. Thompson remarked that there is "surprisingly little" information available concerning the nutrition and management of the calf until she is a bred heifer, "but several recent reports have indicated increased activity in this important area."

He pointed out to the touring group of agricultural college deans and college specialists and representatives of dairy breed associations, equipment manufacturers and the press a Holstein cow in the Purina herd that calved at 21 months and is now in her fourth lactation. Mr. Thompson said the cow weighed 401 lb. at four months and was big enough to breed at 12 months.

The five-year-old cow has already produced approximately 40,000 lb. of milk and her records indicate that her productive capacity is still developing.

"Her production per day of life is above 20 lb. and will increase significantly during this (fourth) lactation, because she is now milking about 60 lb. per day," Mr. Thompson noted.

"Our present average of just under 24 months at first freshening can conceivably be further lowered to 18-20 months," he said. "Other breeds (other than Holstein) could be proportionately younger. This practical application of calf and heifer development would significantly increase milk per day of life."

Protein Level

Research and practical experience, said Mr. Thompson, have shown that a good 16% grain ration provides an efficient level of protein to feed for dairy cows, "regardless of the kind of roughage available, if the amount fed is adjusted to roughage quality."

He said a Purina test indicated that the 16% grain ration, fed at a slightly higher level with poor roughage, made best use of poor roughage, and fed at normal levels supplemented good hay economically and efficiently.

Another Ralston Purina Research Farm experiment "has clearly shown that good grass must be properly supplemented with a balanced grain mixture to keep cows in most profitable production throughout the year.

"The test illustrates the tricky costliness of a summer diet of straight grass for dairy cows," Mr. Thompson said. "Grass is about 85% water. While straight grass may flush milk production temporarily, it doesn't provide the necessary nutrients to keep the cows in good condition. Damaging losses in milk production come in the fall and winter, when milk markets are invariably at their highest."

He said research and experience have indicated that cows on lush pasture need about one half the winter's ration of balanced grain supplement. When the heat stays at 85° or more, the supplement feeding should be increased to three fourths of the winter ration. As pastures burn and turn brown, a full ration of balanced grain supplement should be fed.

LOOKING IT OVER—This photo indicates that perhaps the cows themselves had a good look around their new "home" before Ralston Purina's new dairy research unit at Gray Summit, Mo., was opened last week to the public for the first time. The central building (with the checkerboard above the doorway) houses the milking parlor, feed room and the unit's administration offices. (Feedstuffs, Sept. 17.)

Scours Protection Claimed for Nitrofuran

LEXINGTON, KY.—A nitrofuran compound called Furazolidone, fed to brood sows in varying amounts during their gestation period and for three weeks after birth of their litters, protected the pigs from scours.

That's the report of Dr. C. E. Barnhart, swine specialist of the University of Kentucky experiment station. Dr. Barnhart said that the experiment showed that "the practice of feeding NF-180 (Furazolidone) to sows prior to farrowing and during the first two to three weeks of lactation is highly desirable."

He said the practice apparently would be especially beneficial in controlling the Salmonella germ, which causes enteritis (scours).

Another factor in the value of the NF-180 was the fact that even the control group's sows and pigs (no NF-180 given) were free of scours. Dr. Barnhart thinks this was due to the fact NF-180 had been used in the herd the two previous years. He noted also that the weight of the pigs at three weeks of age increased as the amount of NF-180 given was increased.

The group getting 4 lb. of NF-180 in a ton of feed performed best in most categories. It had more pigs farrowed, farrowed alive and alive at three weeks, and was second highest in weights of pigs at three weeks of age.

Indiana Group Now Has Full-Time Secretary

INDIANAPOLIS — Indiana Grain and Feed Dealers Assn., Inc., now has the full-time services of an executive secretary and an assistant secretary.

A recent bulletin of the association explained: "For many years, in the interest of economy, our secretary's office served both the National Hay Assn. and our own association. In recent years our own growth, increased activities, needed contacts, needed projects and increased work load necessitated the full-time employ of the secretary's office to function as an effective trade association."

As soon as their commitments to the National Hay Assn. were completed, Fred Sale became executive secretary and Agnes Harmon assistant secretary on a full-time basis.

100 LBS. NET
SUNFLOWER
SOYBEAN OIL MEAL
Best Meal of the day
Yours, when its formulated with Sunflower Brand soybean meal! Item: Sunflower Brand starts with the best soybeans grown. Item: we "cook" them by a special process to develop highest palatibility and digestibility. Item: Guaranteed OVER 44% protein. Get the complete story from:
Kansas Soya Products Co., Inc.
Phone Dickens 2-7270
Emporia, Kansas
Profit item for millers: dependable on-time delivery from our mill to yours.

FARM SUPPLIES
BEMIS
Where flexible packaging
In the store...
your printed brand
on your bag is
your only salesman.
Be sure it's good.
Bemis
General Offices—111-F N. 4th Street, St. Louis 2
Sales Offices in Principal Cities

'Daring Venture' Tells Life Story Of W. H. Danforth

One of the recent biographies to appear in the book stores is "Daring Venture," the story of William H. Danforth, founder of the Ralston Purina Co.

Author of the book is Gordon M. Philpott, long-time friend and business associate of the late Mr. Danforth.

The book, published by Random House, tells that when Will Danforth, 14, arrived in St. Louis in 1884, he was determined to attain many high goals in his life. "Determination—and success—became a lifelong habit. Founder and builder of the Ralston Purina Co., outstanding leader of youth, author, traveler, soldier, hunter, churchman and philanthropist, he lived life to the full and enjoyed all 85 years of it.

"He revolutionized the feeding of livestock and poultry and helped to make America the best-fed nation in the world" through his company with its gay red and white checkerboard trademark.

Mr. Philpott relates Mr. Danforth's love for young people and his "ability to win their confidence and stimulate them to extraordinary achievements. Co-founder of the American Youth Foundation and author of 'I Dare You,' he influenced the lives of generations of boys and girls who now are leaders in business, church, professional and political life. For many of them he provided the financial help necessary for a college education.

"While still in the prime of life, Mr. Danforth turned over the management of his business to his son, to devote the major portion of his time to the affairs of the Danforth Foundation. He lived to see this organization become a vital factor in aiding and developing leaders in the teaching profession.

"This story of a man successful in many fields is full of refreshing anecdotes and illustrations of what made his methods so effective. Live alligators were given to boys who brought new members to Sunday school; setting-up exercises were the rule in his business offices instead of the modern coffee break."

The author and Mr. Danforth met in the summer of 1914 in the Canadian woods when Mr. Danforth was on a fishing trip and Mr. Philpott was a summer fire ranger working to pay his way through college. They became friends and business associates.

Sources of information for the biography come from observation of the subject in his home and office and on travels abroad and through the reading of Mr. Danforth's diaries which he kept daily for over 50 years.

INDIANA MILL SOLD

MARION, IND.—The Kroger Co. has purchased Thomas Milling Co. of Marion, which was operated many years by Addis O. Thomas.

C. E. Parker

Vern Casselbury

Seco Appoints Two Sales Representatives

GOODLETTSVILLE, TENN. — Two new sales representatives have been appointed by Seco, Inc., manufacturer of mobile and stationary feed processing and conveying equipment.

They are Charles E. Parker, who is assigned to southern Illinois, and Vern Casselbury, who will cover south central Tennessee and northern Alabama.

Mr. Parker lives at Ferguson, Mo. He has his B.S. in mechanical engineering and served as a staff engineer with McDonnell Aircraft, St. Louis, before joining Seco.

Mr. Casselbury has a B.S. in education from Mansfield College and additional credits toward law and management degrees. He has served various southern cities as a staff director for the Chamber of Commerce. Prior to becoming a Seco sales representative, Mr. Casselbury was sales manager for the Beech Aircraft Corp.

Renderers Convention Speakers Announced

CHICAGO—Two of the rendering industry's major markets—chemical processing and feed manufacturing—will receive major emphasis at the National Renderers Assn. convention to be held Nov. 9-12 in Dallas.

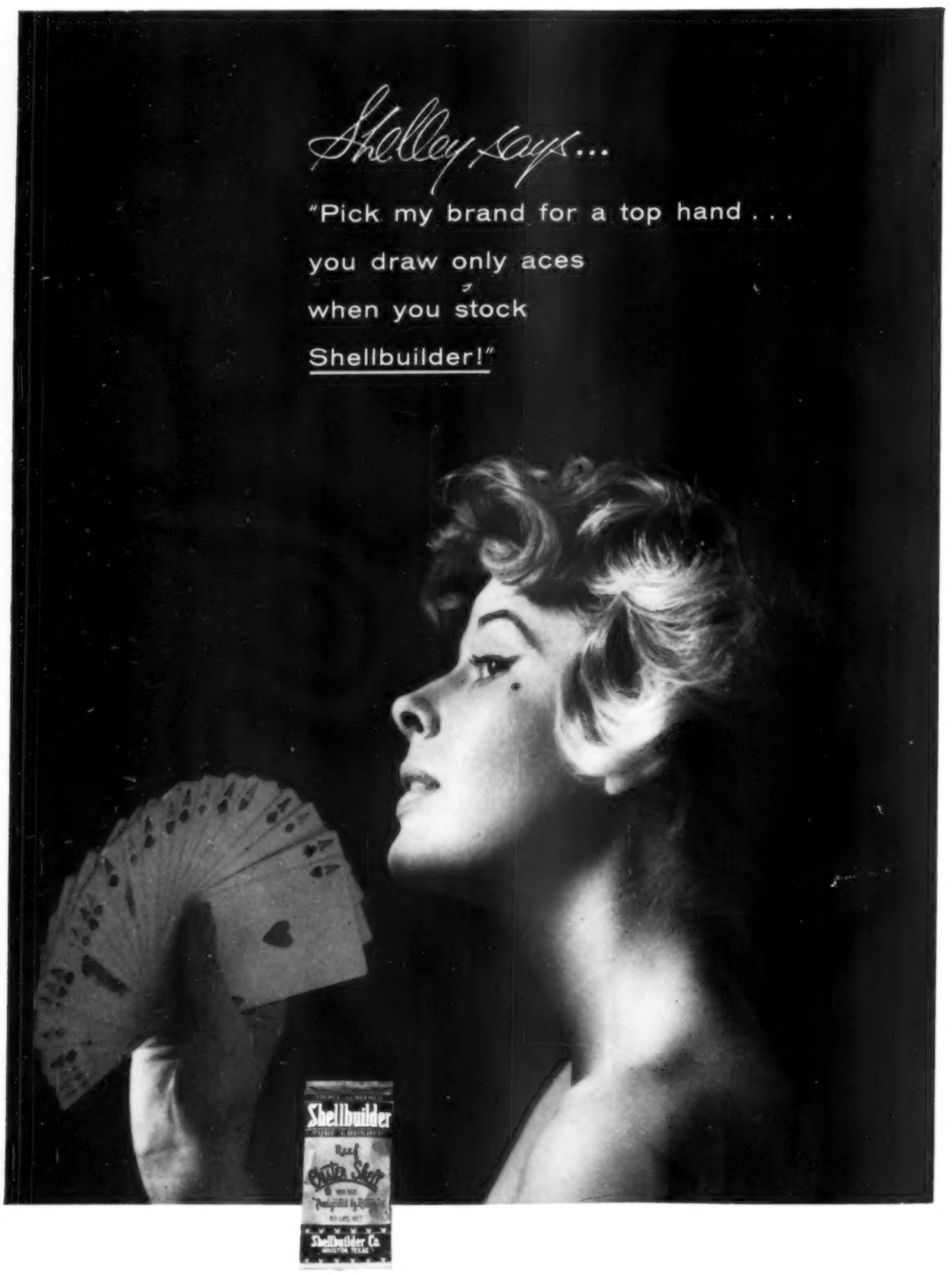
Guest speakers will include Dr. John Matsushima and Dr. Foster D. Snell. Dr. Matsushima, associate professor in the University of Nebraska College of Agriculture, is known for his studies on the use of beef tallow for fattening cattle. Dr. Snell is president of the chemical research organization which bears his name. Under study now is use of inedible tallow for the formation of sucrose esters of the mixed fatty acids and their evaluation as synthetic detergents.

In keeping with the international scope of the renderers export program, a post-convention tour to Mexico has been planned for Nov. 13-20. Delegates attending will visit Mexico City, Cuernavaca, Taxco and Acapulco.

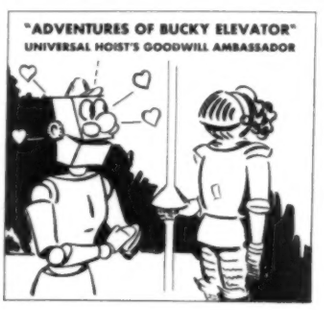
Reduce Mill Odors

LOUISVILLE—The Aubrey Feed Mills plant here has been one of the targets for the City-County Air Pollution Control Board.

At a meeting of the board Ralph Bourne, chief engineer for the board, reported that Aubrey had made recent changes aimed at reducing a serious odor problem in the area. For one thing, he said, the plant has blacktopped a large area which can now be washed free of particles of fermented grain and fish solids which drop there.



SHELLBUILDER COMPANY • MARINE BUILDING • HOUSTON, TEXAS / *Pure Crushed Reef Oyster Shell*



Dawe's

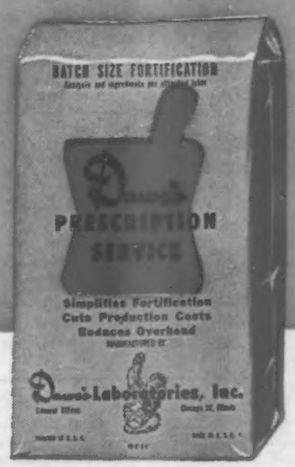
prescription service

For better quality control have your Fortifying Premixes compounded by Specialists

Enjoy the convenience, economy and quality control advantages of having your feed fortifiers compounded by specialists. Dawe's Prescription Service provides you any practical combination and potency of vitamins, medicaments, or other additives, custom-blended and custom-packaged to your precise specifications.

You save the time and expense of proportioning and premixing micro-ingredients and minimize the chances of costly errors, which improves your quality control. Batch-size packaging simplifies your production. One order replaces scattered buying. You avoid unbalanced inventories of individual ingredients.

Through Dawe's Prescription Service, you get skill, accuracy and dependability developed in over 30 years' specialization in vitamin nutrition and feed fortification. Write for quotations on your fortifiers. You'll like Dawe's consistent, uniform quality and fast, personalized service.



PLANTS:
Chicago, Illinois • Peoria, Illinois
Atlanta, Georgia • Fort Worth, Texas
Auburn, Washington • Newaygo, Michigan

WAREHOUSES:
Buffalo, New York • Columbus, Ohio
Denver, Colorado • Kansas City, Missouri
Janesville, Wisconsin • Memphis, Tennessee
Minneapolis, Minnesota • Roanoke, Virginia
Stockton, California • Trenton, New Jersey
Los Angeles, California

World's Oldest and Largest Specialists in Feed Fortification

Dawe's

DAWE'S LABORATORIES, INC.
4800 South Richmond Street
Chicago 32, Illinois

FOREIGN OFFICES:
BELGIUM—13 Courte rue des Claires, Antwerp
ITALY—Via Negri 4, Milan
MEXICO—Apartado Postal 30209, Mexico 7, D. F.
VENEZUELA—Apartado 3050, Caracas

Barley for Hogs—A Decade of Research

"This research has demonstrated that barley as a hog feed is definitely competitive to corn."

By Dr. W. E. Dinusson
North Dakota Agricultural College

Barley is the second or third most important feed grain in the U.S. and Canada. Barley is one of the most widely grown grains in the world. Although a major hog feed in Europe and Canada it has never been very popular as a hog feed in the U.S.

In the northern great plains area barley is the number one feed grain. Barley is much more variable than corn. There are two species of barley grown in the U.S.—two row and six row. Further there are malting varieties and feed varieties. However, common usage has made "feed barley" any barley not suitable for malting, variety notwithstanding. The plumpness of kernel, hull content and protein content vary with area of production, type of season and climate at harvest. The experimental work summarized here is with barley common to North Dakota and surrounding states.

About a decade ago the North Dakota Experiment Station became interested in re-evaluation of barley as a hog feed. Most of the available research was on barley as a substitute for corn. It was felt that newer methods of preparation or supplementation might increase the feeding value of barley. Obviously, the greatest shortcoming of barley was the tough, fibrous hull. This made grinding or soaking a necessity for use as a hog feed, and also increased the feeding value by 15-20%. However, these preparations had their shortcomings. The soaking was a tedious task and if the barley was ground fine enough, to prevent "sorting" of the hull from the groat by the pigs with resulting waste, it was too dusty to be palatable and considerable loss from wind resulted. If the grind was to a coarse meal then the sorting resulted in waste, often as much as 25% of the pigs' allowance. Furthermore, it was not practical to feed barley and supplement "free-choice" as was common with corn, because the pigs always consumed more of the supplement than necessary to balance their ration.

TABLE 1. Effect of Pelleting of Rations on Gain and Feed Efficiency of Swine

Ration (Experiment 1)	Average daily gain, lb.	Feed/lb. gain, lb.	Feed/day, lb.
Barley (fine meal)..	1.57	4.09	6.4
Barley (pelleted) ..	1.79	3.38	6.1
Corn (meal)	1.62	4.09	6.6
(Experiment 2)			
Barley (fine meal)..	1.42	3.48	5.0
Barley (medium meal)	1.39	3.64	5.1
Barley (pelleted) ..	1.58	3.37	5.3
Corn (meal)	1.43	3.38	4.9
Corn (pelleted)	1.41	3.20	4.5

Compare Meal, Pellets

Some of the earlier research experiments were designed to compare barley in meal and the pelleted form to corn. Similar supplements were used for both grains. These supplements included minerals, vitamins A and D, dehydrated alfalfa, meat scraps and soybean oil meal. Additional oil meal was used to equalize the lower protein in the corn rations. Table 1 summarizes the pertinent results of two experiments. In one trial the initial weight of the pigs was 45 lb. and in the other 32 lb. All were carried to market weights.

These results were encouraging and indicated that the mixing, pulverizing and pelleting basal barley rations resulted in 14% faster gains and required 17% less feed per pound of gain than corresponding meal rations.

Thin vs. Plump Barley

In continuing research on barley, the problems of kernel plumpness and bushel weights became evident. Seasons of poor growing and harvesting weather resulted in thin, light weight barley. Results of the two experiments to illustrate the comparative values of thin vs. plump barleys are printed in Table 2. The rations were the same except for the barley used. The formula for these rations was barley, 95%; blood meal, 1.5%; meat scraps, 1.5%, and minerals and vitamins, 2%. The barley was "sized" by passing over appropriate sieves. The values are averages of two lots of pigs.

From these and other results it became apparent that if the ration were pelleted, thin, 37 lb. per bu. barley was worth from 7-10% less than 46 lb. per bushel barley. Furthermore, the difference was in the feed required per pound of gain and not in the rate of gain. If given a chance by feeding a less bulky, more palatable ration (pelleted) the pigs tended to eat on the basis of available energy content of the feed and not on total pounds of feed. There was no advantage to feeding the plump barley to pigs up to weights of 125 lb. and then the thin barley to market. This has also been shown by the Minnesota workers using meal rations. It was impossible to fully evaluate the plump vs. thin in the meal rations because of waste of feed from the feeders. Actually the results from the meal rations (Exp. 28) for feed efficiency and feed intake include that due to waste and are on as "offered" rather than "consumed" basis.

TABLE 2. Effect of Kernel Plumpness and Weight

Barley and form	Av. daily gain, lb.	Feed/lb. gain, lb.	Feed/day lb.	Bushel weight, lb.	% Crude fiber
Experiment 26					
Unsized, pelleted	1.49	3.06	4.7	44.7	..
Plump, pelleted	1.50	3.22	4.7	46.2	..
Thin, pelleted	1.47	3.31	5.0	37.0	..
Plump to 125 lb. then thin, pelleted	1.42	3.38	4.8	...	..
Experiment 28					
Unsized, pelleted	1.55	3.71	5.6	43	6.7
Plump, pelleted	1.53	3.44	5.3	46	5.7
Thin, pelleted	1.61	3.57	5.9	39	7.7
Plump, meal	1.36	4.50	6.1	46	6.6
Thin, meal	1.36	4.33	5.9	39	8.2

TABLE 3. Effect of Added Oat Hulls to Barley Rations

Rations	Av. daily gain, lb.	Feed/lb. gain, lb.	Feed/day lb.	Per cent fiber
Experiment 29				
Basal, pellet	1.45	3.70	5.37	6.4
Basal, meal	1.43	4.36	6.18	7.2
+ 15% O.H., pellet	1.51	4.05	6.14	10.0
+ 15% O.H., meal	1.50	5.02	7.55	10.9
+ 30% O.H., pellet	1.54	4.67	7.22	12.7
Experiment 29-A				
Basal, pellet	1.46	3.67	5.39	6.4
Basal, meal	1.37	4.22	5.76	7.2
+ 15% O.H., pellet	1.62	3.94	6.40	10.0
+ 15% O.H., meal	1.32	5.09	6.72	10.9
+ 30% O.H., pellet	1.58	4.42	6.98	12.7

Oat Hulls Used

In order to more fully investigate the effects of hull in this respect two additional experiments were carried out whereby oat hulls were substituted for barley and the ration balanced for protein with soybean oil meal. The basic ration was similar to that used in experiments 26 and 28. The oat hulls were added at two levels, 15% and 30%. At the higher level only the pelleted form was used. The summaries of two experiments are given in Table 3. The figures are averages of two lots. The first group (Exp. 29) of pigs were initially 30 lb. and in the second (Exp. 29-A) 40 lb. In both experiments the pigs were taken to market weight of 200 lb.

Feed Efficiencies

Again the feed efficiencies and feed per day for the meal rations include any wasted feed. However, the waste was negligible in these experiments. The pigs on pellets gained significantly faster than those on meal, primarily due to gains on experiment 29-A. The data on the feed efficiencies is interesting. Adding 15% oat hulls, which resulted in a 58% increase in crude fiber, increased feed needed per pound of gain by only about 9%, whereas the basal meal ration required about 17% more feed than the basal pellet. The 15% oat hull addition fed in the meal form resulted in a 38% increase in feed per pound of gain over the basal pellet whereas the 30% oat hull addition in a pelleted ration required only a 23% increase in feed per pound of gain. Apparently pelleting was overcoming to a large extent the effect of fiber. The feed intake per day for the pelleted lots is of interest because little or no waste occurred. The lots on the 15% oat hull ration pelleted, consumed about 16% more feed daily and those on the 30% oat hull pellets ate 31.9% more feed than those on the basal pellet. This was just about enough to overcome the lower energy levels of the more fibrous rations.

Fiber Level Lower

It was found in many of these experiments that the same ration analyzed slightly lower in crude fiber when it had been pelleted than if in the meal form. This difference appeared to be a constant and not a percentage relationship because the difference was about the same for a 6% fiber ration as a 12% fiber ration. Tables 2 and 3 show some of these values. It was thought that maybe this was related to surface area of the pellet. An experiment was designed to see if these differences had any practical benefit. Table 4 summarizes this experiment. The values are averages of two lots, one with initial weights of about 38 lb. and the other 50 lb. The ration was similar to those used earlier, barley 93.5%, fishmeal-meat scraps mixture 5%, minerals and vitamins 1.5%.

On the treatment, the pelleted three times, the ration was reground and repelleted three times. Thus, if this difference was due to the surface area of the pellet any practical benefits from pelleting would be much greater.

Dr. W. E. Dinusson

AUTHOR—Dr. W. E. Dinusson is a professor of animal husbandry and animal nutritionist at North Dakota Agricultural College, where he has been on the staff since 1949. He received his B.S. degree at Oklahoma State University and his Ph.D. degree from Purdue University. He was at South Dakota State College for a year before going to North Dakota. Dr. Dinusson has conducted research on various aspects of livestock nutrition, including swine, cattle and sheep feeding. Currently he has a 10-month Fulbright Research Scholarship to Iceland. He is attached to the University of Iceland in Reykjavik, where he expects to do some basic research on roughages. Dr. Dinusson will return to North Dakota next July.

Increases Palatability, Density

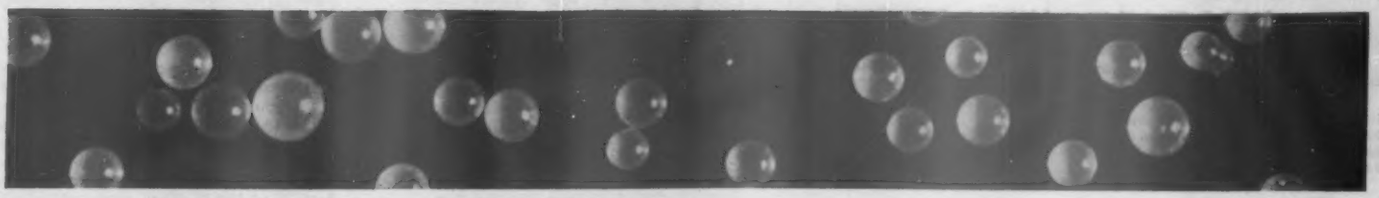
The pigs on pellets gained about 12% faster on 9% less feed. Pelleting the ration, regrinding and feeding as meal was no better than meal. Nor was pelleting three times any better than pelleting once. This and other research indicates that the value of pelleting is primarily due to change in physical form of the ration. Pelleting of fibrous rations increases palatability and density which permits pigs to eat on an energy basis. It also reduces waste, reduces labor and management costs. Pelleting complete rations also prevents sorting or selection within a ration.

A summary of experiments over the past eight years involving about 1,000

TABLE 4. Preparation and Physical Form

Treatment	Av. daily gain, lb.	Feed/lb. gain, lb.	Per cent fiber
Meal	1.44	3.81	7.7
Pellet	1.61	3.47	7.0
Pellet & reground fed as meal ...	1.46	3.86	7.0
Crumbles	1.58	3.53	6.9
Pelleted, 3 times..	1.62	3.46	7.0

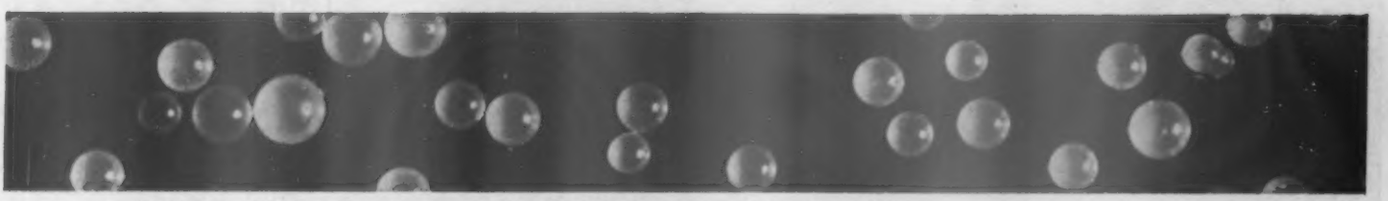
DSM
PGB-250
DRY VITAMIN A
Get it in the Midwest from
Carroll Swanson Sales Co.
Box 1034, University Place Sta.
Tel. CR 9-8881 Des Moines 11, Iowa



All-*trans* isomer. The one of maximum vitamin A activity.

Palmitate ester. The form that has consistently shown better stability against minerals and moisture.

Protected with gelatin. Practically impervious to oxygen and minerals, yet easy to digest.



Right size. 30-120 mesh—not too big for good distribution, not too small for good stability.

Stable. Unsurpassed in mixed feeds, concentrates, pre-mixes, pellets—at low or high temperature, low or high humidity.

Full biopotency. Gets to the tissues in a form you can check and can depend on.

That's PGB-250 Dry **Vitamin A**

Magnified here 25 diameters

For information and a quotation, write *Distillation Products Industries,* Rochester 3, N. Y. Sales offices: New York and Chicago • Charles Albert Smith Limited, Montreal and Toronto.

leaders in research and production of vitamins A and E

DPi

Also...distilled monoglycerides... some 3800 Eastman Organic Chemicals for science and industry

Distillation Products Industries *is a division of* **Eastman Kodak Company**

TABLE 5. Effect of Lysine Additions to Barley Rations

Treatment	Per cent protein	Initial weight, lb.	Final weight, lb.	Av. daily gain, lb.	Feed/lb. gain, lb.
Experiment 44					
Barley, basal	12.0	28	45	0.40	4.18
Basal + 0.2% L-lysine HCl	12.2	29	65	0.85	3.72
Barley, bloodmeal	13.8	27	53	0.63	3.91
Barley, bloodmeal + 0.2% L-lysine HCl	14.0	28	77	1.18	2.80
Experiment 45					
Barley, basal	12	32	45	0.62	4.30
Basal + 0.2% L-lysine HCl	12.2	31	98	1.20	3.32
Barley, bloodmeal	13.8	30	77	0.87	3.80
Barley, bloodmeal + 0.2% L-lysine HCl	14.0	32	100	1.25	3.23
Experiment 56					
Barley-skim milk	13.8	26	115	1.26	3.00
+ 0.2% L-lysine HCl	14.0	26	124	1.40	2.79

pigs of several breeds and crosses has shown an over-all average of an 8.5% increase in gains as a result of pelleting. However, this includes more than barley rations, it also includes rations where the main grains were corn or hulled oats which showed little or no advantage to gains as a result of pelleting. The over-all results showed an advantage in feed efficiency of 15 to 16% as a result of pelleting. It was also interesting to note that pigs required about 6% more feed per pound of gain in winter than in summer.

In attempting to find the most efficient protein supplement to barley rations the early work indicated the combinations of animal protein sources such as blood meal, meat scraps and fish meal were more effective than the plant proteins, soybean oil meal and linseed meal. The animal proteins seemed to give a better balance of amino acids with those found in barley. Quality of protein in the supplements seems to be more critical for barley than for corn because barley normally has 30% more protein than corn (12% vs. 9%). However, additional research showed the response of these animal proteins, particularly blood meal, to be very variable and that soybean oil meal as part or all of the protein has given more consistent responses. This observation was interpreted to mean that the lysine, the limiting amino acid in barley protein, was either in lesser amounts than reported for these supplements or was unavailable to the pigs.

Lysine Studied

A series of experiments was initiated to study this problem of lysine and protein quality in barley rations. The technique was to use littermates in a modified paired feeding design. The pigs used were usually 20-25 lb. in weight and were carried to weights of 75 to 110 lb. They were individually fed, ad libitum, and the protein level was below requirements to permit a more critical evaluation. Table 5 briefly summarizes some of the trials.

These three experiments serve to illustrate the limiting factor in barley and barley rations. Experiments 44 and 45 show that under the conditions of these experiments, 0.2% L-lysine HCl was better than additions of 2.8 lb. of bloodmeal which increased the protein content of the ration from 12 to 13.8%. Additions of lysine to barley-bloodmeal rations gave an additional response. In fact in these two experiments lysine increased gains by 99% and 63% and feed efficiency by 25% and 19% respectively.

On the barley-dried skimmilk trial the added lysine increased gains by 10% and feed efficiency by 7%. This was surprising because dried skimmilk added to barley gives a ration with higher levels of lysine and though dried skimmilk is usually too expensive to be practical this combination has given excellent results in feeding trials.

These examples serve to illustrate the limitation of lysine in barley rations. Lysine has given responses to gain in all combinations tried, including soybean oil meal, fish meal, blood meal, meat scraps, dried skimmilk and combinations of these. The increases in gains have varied from 8% to 99% depending on protein level and age of pig. Further work is in progress to clarify the economic aspect and to arrive at a price that can be paid for lysine for use with barley rations.

Enzyme Preparations

Enzyme preparations from five different sources have been tried but none have given any appreciable response with the North Dakota barley. This is not as found by researchers at Washington and Oregon with barley from that locality. This difference may be due to differences in barley type, conditions of growth and harvest of barley, and climate.

Additional research is in progress on protein-energy-fiber relationships. Crude fiber is no longer such a deterrent in swine feeds when the physical form of the feed is altered by some means such as pulverizing and pelleting. Finding a suitable protein or amino acid source which will adequately balance out the amino acid requirements will make the higher protein content of barley more valuable. In any event, this research has demonstrated that barley as a hog feed is definitely competitive to corn.

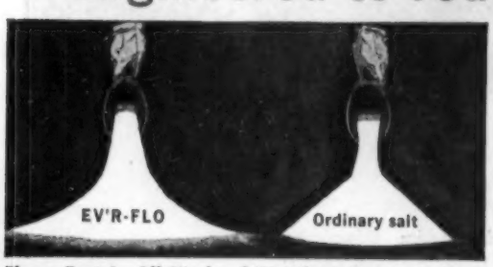
REFERENCES

North Dakota Bimonthly Bulletin, 15: 162-166, 1953; 18:56-62, 1955; 19:66-68, 1956; 20:16-20, 1958; 20:(17)17-19, 1959; 21:(6) 16-18, 1960.
North Dakota Experiment Station Research Report No. 2, 1960.
Second Annual Swine Day Report, 1959, NDAC Dept. of An. Husb.

Lost salt car proves EV'R-FLO weather resistance!

For nine dripping days and freezing nights last March a hopper car of Carey Ev'r-Flo Salt was held in a feedmill yard. Despite condensation, frost and humidity, and wide variations in temperature the Carey Ev'r-Flo Salt did not set-up in the car, poured swiftly through conveyors and was moved into and out of storage bins without coning or bridging.

CAREY EV'R-FLO...first mixing salt engineered to reduce weather hazards



Flows Fast In All Kinds of Weather! Cone test shows Carey Ev'r-Flo spreads wider, flows faster, disperses more thoroughly to mix with other ingredients. Friction makes ordinary salt flow slower; creates higher cone.

Actually Repels Water! "Laboratory Beaker Test" shows how water penetrates ordinary salt (left); floats on top of Ev'r-Flo Salt (right). This means less caking, lumping or bridging in your equipment.

TRY ONE ORDER AT OUR RISK!
Order a 40-Ton Hopper Car or a Bulk Truckload. If your first order doesn't flow freely and mix easily, your money will be refunded.

CAREY
THE CAREY SALT COMPANY
Hutchinson, Kansas

NOW IN BAGS
And if your mills are not equipped to handle Carey Ev'r-Flo in bulk, you will be pleased to know that now this same high quality mixing salt—Carey Ev'r-Flo is now available in 50 and 100 lb. bags. Take no risk . . . Order a 25 Ton Truckload of Carey Ev'r-Flo in bags. Ideal for batch mixing.

See Rise in Exports

ATLANTA—Two German food experts who visited some poultry processing plants in Georgia in September reported that prospects for increasing shipment of Georgia poultry to Germany are good.

Major expansion of German poultry imports as a result of relaxation of restrictions is seen by Ewald Bartold, an official of the largest food retailers' cooperative in Germany, who was a visitor to Atlanta and Gainesville recently. With Mr. Bartold was Ernest G. Rudolphi, secretary-manager of the German Frozen Food Assn.

Clemson Nutritionist Presents Views on Reducing Feed Costs

CLEMSON, S.C.—Use of less feed and the use of a less expensive feed are the two general ways of accomplishing a reduction in feed costs, according to Dr. D. E. Turk, assistant nutritionist in the poultry department, Clemson College here.

Dr. Turk presented his ideas on "Reducing Feed Costs" at the poultry section meeting of the Farm & Home Week Program. They range from careful handling to eliminate waste to the on-the-farm feed mill.

The Clemson nutritionist suggested careful feed handling and storage as a means of cutting the amount of feed used. However, he warned poultrymen on restricted feeding. He said with good range and management, "restricted feeding of a ration designed to complement the nutrients the birds receive from the pasture is an excellent way to reduce feed costs."

This, he said, allows one to make use of nutrients whose cost of production one would have to pay in land cost and taxes whether they are used or not.

As a general method of reducing the cost of feed that is consumed, many people think of buying the cheapest feed they can find at their feed store. Dr. Turk said that this method is "risky at best and is immediately abandoned by a successful poultryman." He commented that use of such feeds often results in production losses of either meat or eggs.

Problems Posed

"Another approach to the problem," according to Dr. Turk, "is to mix one's own feed from scratch. This immediately poses problems that most poultrymen are not equipped to handle. To illustrate, there are 39 nutrients that are absolutely essential to poultry which must all be present and in proper relationship to each other. If any one of the items on this list is absent from a ration or is seriously unbalanced in that ration, production will cease and the lives of the flock will be in serious danger. There are another 10-12 materials that are essential under certain conditions and a further list of 25-30 items, such as antibiotics and medicines, that are added to feeds to stimulate growth and production or to fight disease. From this, it is obvious that the preparation of a successful ration that will give maximum performance is a job for a highly trained specialist."

Use of Concentrate

Another possibility listed by the Clemson nutritionist is raising one's own grain and purchasing a concentrate designed for use with the specific grain. This, he said, "combines the cost reduction properties of the home grown grain with the nutritive knowledge of the feed industry."

He proceeded to warn, however, that use of a concentrate "requires a few cautions on the part of the poultryman. A concentrate should be selected that is designed for the type of grain and the type of stock the poultryman has and, secondly, the directions for the use of the concentrate must be rigidly followed."

Possibilities for means of mixing the poultryman's own grain with the concentrate include "the costly method of hauling the grain to a mill and back to the farm or the mobile mill." Dr. Turk says that a mobile mill offers the possibility of substantial feed cost reduction if the mobile mill can produce for several hours or days and the poultryman has storage space for the finished product. He added that the cost of moving the mill for short periods of operation would offset the economies gained by eliminating the transportation of grain. "The middle sized operator benefits most from this type of operation," Dr. Turk stated.

Final choice, according to the college nutritionist, is that of the poultryman setting up his own feed mill on the farm and making use only of concentrates. He said, "Such an operation requires a grinder, a mixer and a set of scales as a minimum. Since the costs of the equipment must be paid out of saving in feed costs, it requires a large volume of feed to pay in this system. This rather effectively restricts this solution to the very large operator or the integrator."

Meeting for Milk Industry Planned

ITHACA, N.Y.—A one-day conference for milk industry representatives to consider the problem of pesticides in relation to milk production and processing is scheduled at Cornell University here Nov. 22. Dr. James C. White, dairy industry department, and Dr. John G. Matthysse, entomology department, are in charge of the program and arrangements.

Speakers will include officials from the U.S. Department of Health, Education and Welfare; U.S. Public Health Service, and New York State Department of Agriculture and Markets, and specialists from the State College of Agriculture here at Cornell.

Grain Inspection Unit Opened on Trial Basis

MEMPHIS — The Memphis Board of Trade has opened a grain inspection office on a trial basis in Pine Bluff, Ark., it was announced by Fred Rivalto, manager of the board.

G. S. Pace will be chief grain inspector for the facility, Mr. Rivalto said.

Cars will be sampled and graded in Pine Bluff, then grades will be forwarded to the grain inspection department of the Board of Trade in Memphis. Grade certificates will be prepared and sent to the shippers.

The office was opened with the expectation of speeding up service for grain shippers handling grain going to New Orleans, Mr. Rivalto said.

Charges will be the same as those in Memphis.

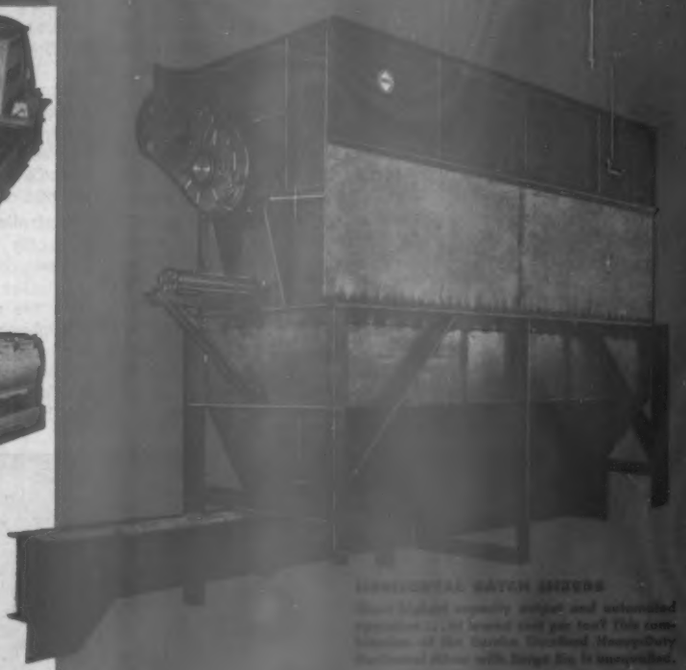
John T. Butler, chief grain inspector for the board here, is the overall head of the grain inspection department.

DUPLEX MIXERS

. . . feature exclusive double-whip beater action from patented loop-type paddles. For wet or dry ingredients.

DYNAMIC MIXERS

. . . provide high-speed agitation for mixing liquids and feeds. Rugged, heavy-duty construction.



EUREKA

THE EUREKA NAME appears on the world's largest line of equipment designed especially for the grain and feed industry. Ask about Eureka equipment for your other operations.

VERTICAL MIXERS

. . . offer wide flexibility. Capacities from ½ to 4 tons or more per batch.

. . . puts more SENSE in your equipment DOLLAR . . . with

JOB-MATED MIXERS

WHATEVER YOUR MIXING REQUIREMENTS . . . there's a EUREKA model to do the job better, faster, more economically. From light-dry to heavy-dense materials, you'll get accurate, uniform blending . . . plus years of dependable, trouble-free service.

ONLY EUREKA offers this wide range of types, sizes and capacities in standard models. Or mixers can be custom-built to your own specifications.

Eureka equipment is manufactured to the highest standards of craftsmanship and quality. Each unit is carefully tested by actual operation in the plant before it is approved for shipment to a customer.

S. HOWES CO., INC.

SILVER CREEK, NEW YORK

the company built on quality and service

GET ALL THE FACTS

I'd like complete information and prices on the items checked.

☐ Horizontal Batch Mixers ☐ Sanitary Mixers ☐ Dynamic Mixers
☐ Duplex Mixers ☐ Other equipment _____ (Please Specify)

Name _____

Company _____

City _____ Zone _____ State _____

DISTRIBUTED BY THE FOX COMPANY

FOXCO QUALADEE

A and D VITAMIN OIL

NEWFIELD NEW JERSEY

"PRODUCTS OF PROGRESS"

EGGS AND LIVABILITY UP... FEED COSTS DOWN

Manwarings prove birds on feed containing Aureomycin have better livability, average 8 more eggs per year at a savings in feed costs of 1 1/3 cents per dozen eggs

The famous Manwaring Leghorn Farms at Mentone, Indiana, have been operated by four generations of the family and, today, are under the expert management of Charles, Miles and Richard Manwaring.

Every phase of the operation of this establishment is dedicated to the production of *quality* chicks: good breeding, good nutrition and good management. In 1956, Manwaring Leghorn Farms became the authorized Northern Indiana and Western Michigan producer and distributor of Kimberchiks produced by Kimber Farms, Inc., Niles, Calif. Since then they have increased their sales by more than 500%. The new Manwaring hatchery has a capacity of 3,500,000 chicks per year.

Saves feed—reduces stress

Charles Manwaring reports: "Through our use of AUREOMYCIN® in feed we have not only saved on feed where egg production is concerned, but we have also been able to reduce stress among our flocks of 30,000 Kimber Leghorn breeders. Total adult mortality rate or flock depletion, which includes culling, runs 9% a year. This was much higher before we began using AUREOMYCIN.

"Where additional stress develops in the course of vaccination, AUREOMYCIN has been especially effective in sustaining appetite. This was not the case before our use of AUREOMYCIN—we just had to make the best of it then."

Controlled test on Aureomycin

Recently the Manwarings conducted a controlled test on 700 birds to further pin-point the value of their use of AUREOMYCIN in feed. "We showed an increase of 8 eggs per bird per year in the birds receiving AUREOMYCIN in their feed," Mr. Manwaring states. "Livability was better and we had a saving of 1⅓ cents per dozen eggs in feed costs."

Results are impressive

These results have especial significance in view of the high standards of the Manwaring operation. This is a farm where efficient management and quality production are long-established basic policies. All expenditures must fully justify themselves in terms of profitable operation and quality chicks. AUREOMYCIN in feed has proved its value to the Manwarings.

If you, too, want to build up and maintain the health of your flocks, talk to your feed manufacturer or feed dealer. Ask for feeds containing AUREOMYCIN. American Cyanamid Company, Agricultural Division, New York 20, N. Y.

®AUREOMYCIN is American Cyanamid Company's trademark for chlortetracycline.

Charles and Richard Manwaring inspect one of their exceptional layers. Says Charles: "AUREOMYCIN not only reduces stress... it also saves on feed where egg production is concerned."

Healthy, 7-months-old pullets—the result of good breeding, good management and good feeds containing AUREOMYCIN.

CYANAMID
AUREOMYCIN
IN FORMULA FEEDS

CYANAMID SERVES THE MAN WHO MAKES A BUSINESS OF AGRICULTURE

USERS REPORT MORE EGG PROFITS WITH AUREOMYCIN IN FORMULA FEEDS

"Gives us more eggs on less feed . . . prevents blue comb and CRD . . . helps us stay ahead of stress . . . hens eat better, look better, lay better."

These are benefits mentioned over and over again in the reports of flock owners from California to New Jersey who are using formula feeds containing AUREOMYCIN®.

Your flock owners have been reading these reports in Cyanamid advertising throughout the year in national, sectional and local farm papers.

These advertisements are designed to (1) let flock owners know the full story of the profit values of AUREOMYCIN in layer and breeder feeds, and (2) to help you sell more formula feed.

Each advertisement reminds the consumer to buy formula feeds from his feed manufacturer or feed dealer.

If you are not now making layer or breeder feeds containing AUREOMYCIN, plan to do so. Increasing consumer acceptance of such feeds is your assurance of higher sales volume. American Cyanamid Company, Agricultural Division, New York 20, N.Y. ®*AUREOMYCIN is American Cyanamid Company's trademark for chlortetracycline.*

HENS HAPPY ABOUT FEED GIVE OWNER $3,600 BONUS

Among many pointers in this operation in how to make formula feed produce more eggs. Here's the story from Cyanamid.

This ranch makes money! It's the 71-acre ranch of Mr. Daniel J. Bakke of Turlock, California. Mr. Bakke runs a big business in buying and brooding quality chicks, carrying 25,000 laying hens for market eggs, producing turkey hatching eggs, poultry and turkey meat.

Says Mr. Bakke: "In an operation like this, good management, sanitation and feeding are all important. And for me, AUREOMYCIN® in my standard feed is *essential to all three.* Here's what I mean: AUREOMYCIN *improves my feed* and assures better health, less mortality and more production through better feed conversion. AUREOMYCIN also *aids sanitation* by lowering the disease level on my ranch. All of this leads to *improvement in my entire management operation.*"

Mr. Bakke operates electric cart holding 1000 lbs. feed. "I figure that AUREOMYCIN costs us about 1½¢ per bird per month . . . and pays for itself many times over."

Controls disease, improves production

Mr. Bakke supplies figures. He says: "I conservatively estimate the value of AUREOMYCIN in maintaining high egg production at about $300 each month ($3,600 yearly)...and that's over the cost of the antibiotic. My laying hens really like to eat the mash containing AUREOMYCIN. They eat better, look better, lay better. We get a longer, more even lay and better shell quality. The big reason for this, of course, is the better health provided by AUREOMYCIN. We maintain a 50-gram level of AUREOMYCIN per ton of feed as a disease preventative, particularly against CRD and blue comb."

All flocks get Aureomycin

Mr. Bakke first learned of AUREOMYCIN 5 years ago through the State of California laboratory in Turlock. He started using it then and continues to use it for his chickens, laying hens and turkey flocks. The formula for Mr. Bakke's laying mash consists of soybean meal, protein elements such as fish meal and bone and meat scraps, grain, vitamins and AUREOMYCIN. The quantity of each item (except AUREOMYCIN) is figured on an IBM computer at the feed mill, resulting in costs savings per ton of feed.

"Protection against stresses, CRD and blue comb keeps lay up to 75% and more. AUREOMYCIN is the answer. We also use it for young chicks and for our turkey flocks."

Why Aureomycin gives better feed conversion

AUREOMYCIN is the wide-spectrum antibiotic that combats harmful bacteria. It helps prevent stresses and invisible, sub-clinical diseases that use up feed energy. It is particularly effective against CRD and blue comb. Flocks don't waste feed fighting disease—they use it to produce more.

If you want to build up the health and productive capacity of your laying hens, talk to your feed manufacturer or feed dealer. Ask for feeds containing AUREOMYCIN. American Cyanamid Company, Agricultural Division, New York 20, N. Y. ®*AUREOMYCIN is American Cyanamid Company's trademark for chlortetracycline.*

CYANAMID
AUREOMYCIN
IN FORMULA FEEDS

CYANAMID SERVES THE MAN WHO MAKES A BUSINESS OF AGRICULTURE

"Good poultry methods are nothing short of vital to our continued success. That's one big reason we use AUREOMYCIN."

"Moving, handling, vaccination, weather changes . . . these are all stresses. We stay ahead of them with AUREOMYCIN."

EGG PRODUCER BEATS TROUBLE TO THE PUNCH

Moving in fast with feeds containing Aureomycin is a form of good management this operator uses to keep egg production up

On the ten farms comprising the Henny Penny Farms at Toms River, New Jersey, 50,000 Kimber laying hens are busy dropping eggs. Keeping these hens up to a production average of 70% or better demands good poultry practices and alertness for every sign that says "trouble."

Doesn't wait for trouble

"We can't afford to wait until the birds' appearance tells us something is wrong," says Mr. Sam Siegel, manager of out-flocks. "The time to start medication is as soon as feed consumption goes down. Birds are like children — they won't eat properly when they're feeling ill or under stress. We recognize the warning of trouble ahead and promptly start giving AUREOMYCIN® in their mash; 100 grams per ton as a preventative, or 200 grams per ton if disease appears."

Sees quick improvement with Aureomycin

Mr. Siegel is enthusiastic about results. He says, "AUREOMYCIN serves both as an appetizer and as a tonic for the birds. The same day the fortified mash is started, we see an immediate improvement in the birds."

Birds at the Henny Penny Farms are fed on an all-mash system. The bulk mash is blown into feed towers atop each hen house, where it is stored. Either automatically by time clock, or by manual control during the day, the mash is conveyed along the troughs on a continuous feeder.

Aureomycin protects against stress

"We always try to get there ahead of stress," continued Mr. Siegel. "We give AUREOMYCIN when birds are moved — before birds are vaccinated—and whenever there is a sudden deterioration in the weather. In warm months, disease often breaks out. We may notice blue comb or general sluggishness. When we do, we come in with high-level feeding of AUREOMYCIN for a period of 5 days and the birds are soon restored to good condition."

Stay ahead of trouble, as Mr. Siegel does, with the protection of AUREOMYCIN. AUREOMYCIN is the wide-spectrum antibiotic that is most effective against CRD, blue comb and invisible, subclinical diseases. Ask your feed manufacturer or feed dealer for layer feeds containing this wide-spectrum antibiotic. American Cyanamid Company, Agricultural Division, New York 20, New York. ®*AUREOMYCIN is American Cyanamid Company's trademark for chlortetracycline.*

CYANAMID
AUREOMYCIN
IN FORMULA FEEDS

CYANAMID SERVES THE MAN WHO MAKES A BUSINESS OF AGRICULTURE

IT SPEAKS FOR ITSELF

50 LBS. NET
MAYO'S
NEW-IMPROVED
SNOW FLAKE
PURE BEEF
OYSTER SHELL
100% MAGNESOL
TRIPLE SCREENED—KILN DRIED
97% CALCIUM CARBONATE
MAYO SHELL CORP.
HOUSTON, TEXAS
PEA SIZE

COMPARE "SNOW FLAKE" with any other OYSTER SHELL It's Better

WRITE, WIRE OR PHONE FOR INFORMATION AND SAMPLES.

Phone OR 2-9441 MAYO SHELL CORP.
P. O. BOX 784 • HOUSTON, TEXAS

F. M. Stamper Co. Holds 6th Annual Youth Auction

MOBERLY, MO.—The F. M. Stamper Co. sixth annual Stamper Youth Auction held here recently was attended by 1,600 boys and girls, parents, 4-H leaders, FFA advisors and county agents, according to the feed firm.

The auction differs from the usual auction in that "money did not talk." Stamps, awarded by Stamper feed dealers with purchases, were the medium of exchange and the boy or girl who could get the most stamps from his parents or friends could buy the animal of his choice. Many purchases are made for 4-H clubs or FFA chapters which pool their stamps.

Only requirements by the Stamper Co. are that the "purchaser" use the calf, gilt or chicks as a club or school project and write a monthly report letter or card to the firm.

On the auction block for the youths were 25 calves, 30 registered gilts and 10 lots of 100 chicks each. Top purchase price was 350,000 Stamper Stamp points (10 points per stamp) for an Angus calf.

Also as a part of the event, a registered heifer was given away. At the close of the auction, a calf scramble is held. Twenty-six 4-H clubs and FFA chapters had representatives in the ring to try to catch and halter one of 10 calves.

Preceding the auction, a livestock and poultry show was held for animals and chicks purchased with stamps or won in the calf scramble at the 1959 auction. Grand champion from that event is shown in the accompanying picture.

CHAMPION—Grand champion at the Stamper Youth Auction is Bobby Parsons, Shelbyville, Mo., shown above with his baby beef and the trophy he received from Howard A. Stamper, president of F. M. Stamper Co. Only boys and girls who purchased animals at the auction in 1959 could compete for $350 in prizes and five trophies offered.

New Book Published On Milk Production

NEW YORK — "Milk Production and Processing," a new book recently published, has been designed to meet the requirements of an orientation course in dairying.

The material contained in the book is broad enough to prepare the student for advanced work in dairy science, yet informative enough to be of use to the reader who never takes another dairy course, say the editors.

The authors cover the more important phases of milk production and processing. Among the topics discussed are: The general scope of the industry, the essentials of a successful dairy farm operation, the composition of milk and its secretion, the essentials of herd management, the testing of milk for chemical and sanitary quality, the processing of various dairy products and the nutritive value of dairy products.

The book contains numerous illustrations and practical problems which reflect situations the student will encounter in the field.

Authors of the book are Henry F. Judkins, secretary-treasurer of the American Dairy Science Assn., and formerly head of the dairy department of the University of Massachusetts, and Dr. Harry A. Keener, professor of dairy science and director of the New Hampshire Agricultural Experiment Station, University of New Hampshire. Price of the book is $7.95. It is published by John Wiley & Sons, Inc., 440 Fourth Ave., New York 16.

GREATER PROFITS with PROVEN Bryant DOUBLE DUTY HAMMERMILL

GRINDS FASTER

Here Are THE FACTS!

- LOWER INITIAL INVESTMENT
- LOWER OPERATING COST
- LOWER MAINTENANCE COSTS

plus . . .

- GREATER CAPACITY AND GRINDING EFFICIENCY

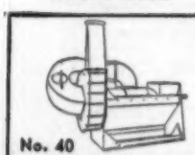
Equal . . .

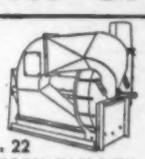
The Bryant Double-Duty is faster, more efficient, less costly to maintain and operate. Capacity for every type of feed is higher. It delivers a cleaner, more uniform feed. Exclusive "Straight-Through Air Flow" action, moves ground material away from screen and into fan IMMEDIATELY and CONSTANTLY. There's no choking, no plugging . . . no loss of air power.

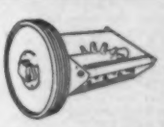
Other outstanding features of Bryant Double-Duty Hammermills include: powerful easy-to-clean permanent magnet; built-in crusher feeder; heavy duty scroll type dust collector; individually-weighed, vibration-free hammers; all rotors checked for dynamic and static balance.

You'll quickly note a steady-growing list of 100% satisfied customers for your Bryant-ground feeds!

MORE TONS OF PRODUCTION PER DOLLAR


No. 40 CORN SHELLER


No. 22 CORN SHELLER


COARSE CRUSHER

UNIVERSAL BLOWER

VERTICAL MIXER

Bryant ENGINEERING COMPANY
1504 TENTH AVENUE PORT HURON, MICHIGAN
Quality - OUR MOST IMPORTANT PRODUCT FOR 49 YEARS"

Fleischmann's F·I·D·Y
IRRADIATED DRY YEAST
RICH IN VITAMIN D FOR FOUR FOOTED ANIMALS

. . . that's how customers describe their delivery of

Coronet Granular DIKAL and Coronet Defluorinated Phosphate

GUARANTEED UNIFORM ANALYSIS

CORONET DEFLUORINATED PHOSPHATE

PHOSPHORUS	CALCIUM	FLUORINE
18.0% min.	31.0% min. 34.0% max.	0.18% max.

Screen analysis: All through 14 mesh; 80% on 200 mesh, plus or minus 5%.

CORONET GRANULAR DIKAL

18.5% min.	20.0% min. 23.0% max.	0.12% max.

Screen analysis: All through 20 mesh; 80% to 90% on 200 mesh.

Better Service . . . by rail and extensive private truck facilities . . . provide Coronet customers dependable deliveries around the clock.

Whether you manufacture feed in California, Colorado or Carolina, you'll be pleased with the better delivery service you receive when you use Coronet phosphorus feed supplements.

Let us figure the cost of CDP or DIKAL delivered to your plant. The better service comes free. Let us prove it!

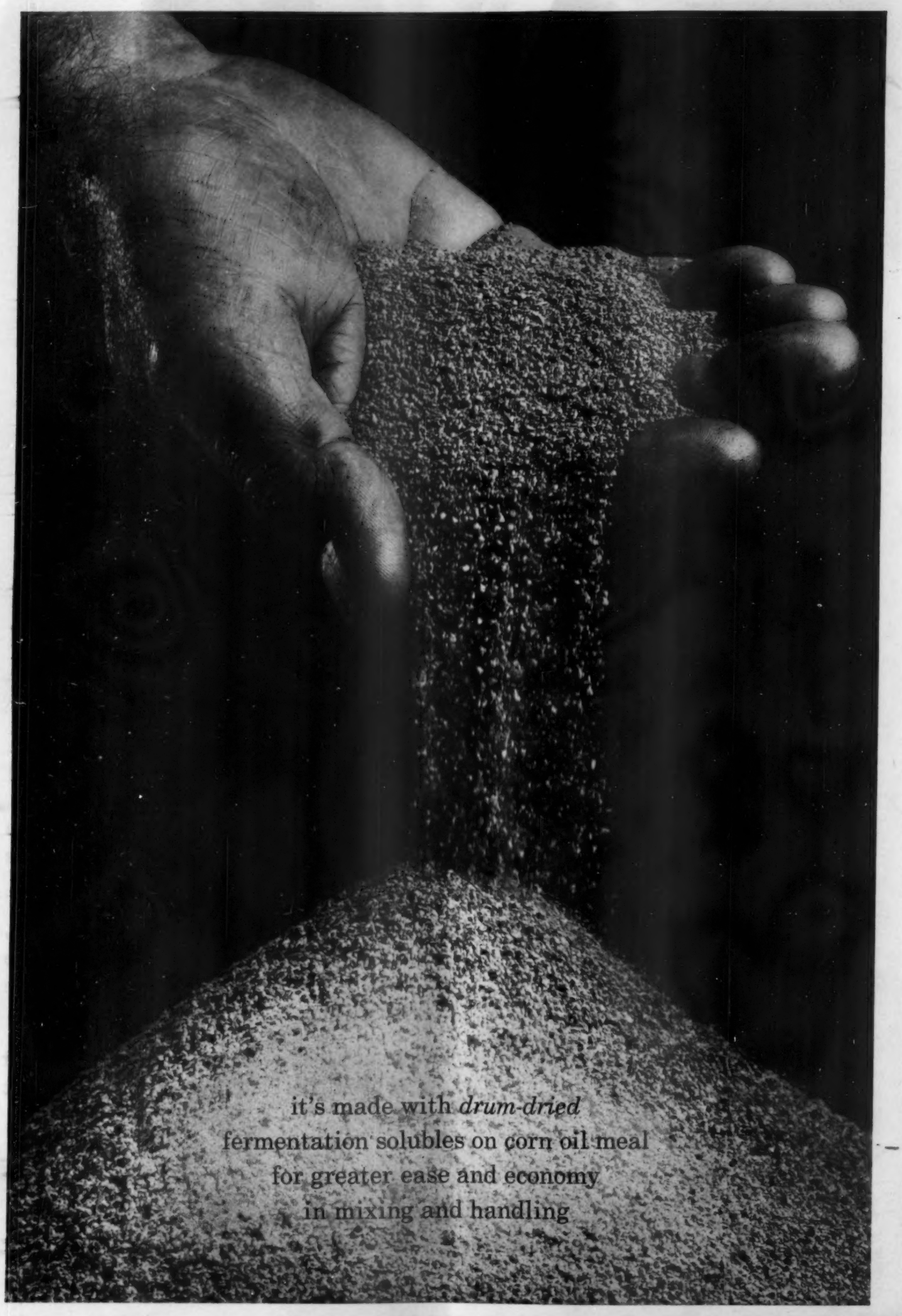
CDP

A PRODUCT OF THE

SMITH-DOUGLASS

COMPANY, INCORPORATED • NORFOLK 1, VIRGINIA

DIKAL


it's made with *drum-dried*
fermentation solubles on corn oil meal
for greater ease and economy
in mixing and handling

NEW!

Vigofac®-6

the most uniformly dependable UGF supplementation on the market today in a brand-new...easier-to-use... free-flowing form.

Now it's easier than ever to formulate low-cost, highly dependable UGF advantages into your feeds.

Use new Vigofac-6 . . . with new potency . . . in the new easy-to-handle, free-flowing form.

No special storage or handling facilities needed. No mess. No dusting. Just slit the bag and pour.

And you get the same cost-cutting flexibility of formulation with the new Vigofac as before . . . permitting you to take fullest advantage of the most favorable price relationship between basic feedstuffs when formulating livestock or poultry feeds.

Outstanding Performance

Increased returns of $15.25 per 1000 birds over controls were noted in a recent broiler trial in which Vigofac-6 was added to a ration containing 2½% Fish Meal and 2½% Fish Solubles. Vigofac-6 increased growth by 2.0% and improved feed efficiency 4.4% over controls.

Vigofac-6 added to a Corn-Soy ration gave increased returns of up to $12.50 per thousand birds.

Uniform High Quality

Vigofac-6 is your best tested, most uniform source of UGF. Every batch is certified to measure up to an accepted standard of growth performance.

The result is a guaranteed source of UGF activity—available as Vigofac-6 . . . your least-cost source of UGF.

See your Pfizer representative for complete details on how you can save with new Vigofac-6.

Chas. Pfizer & Co., Inc.
630 Flushing Ave., Brooklyn 6, N. Y.
7600 Ambassador Row, Dallas 7
230 Brighton Rd., Clifton, N. J.
6460 W. Cortland St., Chicago 35
1500 16th St., San Francisco 3
5251 Peachtree Industrial Blvd., Chamblee, Ga.
In Canada:
5330 Royalmount Rd., Montreal 9, P. Q.

Pfizer

Science for the world's well-being™

Pfizer is represented in more than 100 countries with the following Area Headquarters offices:
Pfizer International Subsidiaries
Folkestone, Kent, England
Pfizer Corporation
Rome, Italy
Pfizer de Mexico S. A.
Mexico D. F., Mexico
Pfizer Corporation do Brasil
Rio de Janeiro, Brazil
Pfizer Corporation
Hong Kong, Br. Cr. Colony

JUDGED

▶ BEST BLACKSTRAP
▶ SUPERIOR SERVICE

NATIONAL MOLASSES COMPANY
Executive Offices: ORELAND, PA. Phone: Livingston 8-5900 (Philadelphia)

FEEDSTUFFS—*LEADER in its field*

More advertisers use FEEDSTUFFS than any other publication in the feed industry

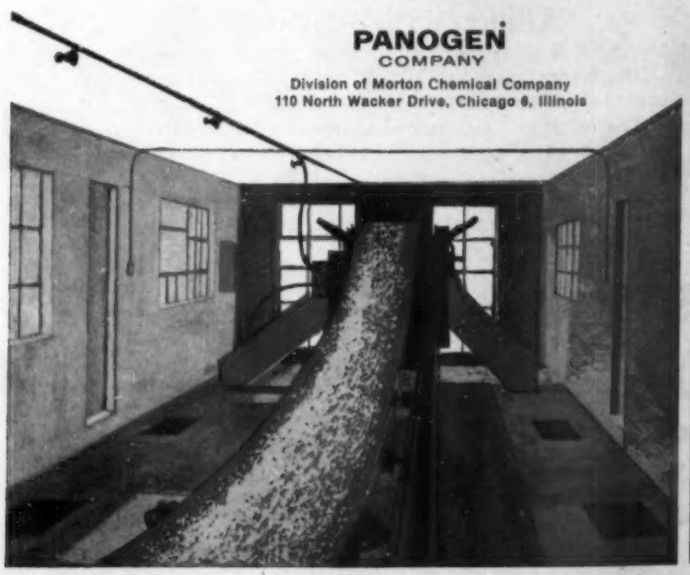
safe

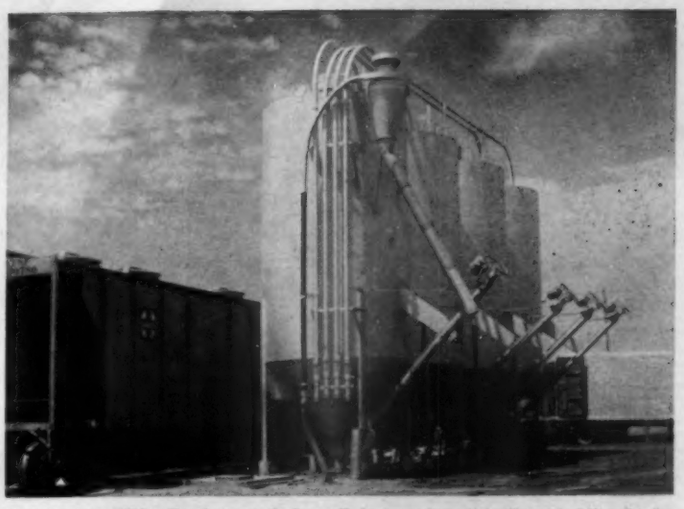
grain stream fumigation

Safe from residue build-up! Safe for your men! Larvacide fumigation is free from tolerance . . . has a built-in safety warning odor. It kills insects fast. Ask us about automatic Larvacide systems.

Larvacide®

PANOGEN COMPANY
Division of Morton Chemical Company
110 North Wacker Drive, Chicago 6, Illinois





HOLDING BINS—Feed comes in by rail, is transferred to these holding tanks and is taken out by feed trucks for local delivery at the Gooch's Feed station in Cheraw, Colo.

Bulk Station Serves Turkey Growers

By Jess Blair
Feedstuffs Special Writer

When a large feeding project develops in a new area, how can a feed firm get some of this business—build a mill, service the customer from a long distance by using large bulk trucks, or set up a relay or bulk station in the locality?

In the booming turkey-growing center of Cheraw, Colo., feed companies are using all three methods. The Gooch Feed Mill Co., Salina, Kansas, located a bulk station in Cheraw a few years ago. Known as Gooch's Feeds, the station is serving a double purpose. It furnishes feed for several large turkey farms and serves as a relay station for retail feed stores in a wide area.

The plant consists of an office and a storage building for sacked feed and poultry supplies. There are four bulk tanks, each with a capacity of 100 tons of feed. They are equipped for pneumatic unloading from trucks or rail cars. The company has an 11-ton delivery truck.

Jim Keller, manager of the station, says the concentrates and starting rations are mixed in the company's mill at Salina and shipped out by rail.

"With a bulk station a company can reach new customers, a long distance away without investing large sums of money," Mr. Keller explained.

The Cheraw turkey-growing venture started 30 years ago, but has boomed within recent years. Business in the area processed over 650,000 large type turkeys in 1959, and an increase of 175,000 is expected this year.

The growers have moved from small farm flocks to large, year-around houses that may hold as many as 10,000 birds each. From flocks of 500 to 1,000 birds, some producers have progressed to as many as 100,000.

This trend to larger units has caused a change in feed methods also. The birds are now managed scientifically and most of the feed is bought.

"We charge 6% interest on any type of account longer than about 30 days," said Mr. Keller. "Sometimes we carry an account for 24-28 weeks, which is the usual feeding period for these large bronze turkeys."

One reason for furnishing only concentrates for larger birds is that most producers have their own grinders and mixers. The larger growers buy grain by the carload and store it on the farm, but they buy concentrates from feed companies.

Growing Plan

Gooch's has developed its own turkey growing plan, which includes a pre-starter feed, a starter ration and concentrates mixed with grain.

Poults are fed a 27% protein feed for seven weeks, then for two weeks are given the starter feed and a growing ration, and finally changed to a 20% protein formula with some grain added.

"We have feeding charts," said Mr. Keller, "which show the amount of supplement, grain and protein percentages of feeds recommended for various ages of the bird's growth. These are worked out scientifically as based on the latest findings on nutrition. And it is this careful feeding supervision that has helped us gain new business."

Mr. Keller serves as manager and outside service man for the company. He works closely with producers on any type of problem, from helping vaccinate to lending a hand in planning a new turkey shed.

Service Important

"Our service to these large producers is very important," he said.

Gooch's spends considerable time with growers, keeps records of growth for them, figures new for-

CHECKING—Jim Keller, manager, is checking over accounts of turkey growers.

SELLIN' SAM By Jim Zilverberg

"No, this isn't the Community Carpet Cleaners, but you came close!"

mulas, and is always ready to discuss any management problem, even though it may be after work hours.

Feed is delivered directly from the holding bins to farm feed bins.

"The company has enjoyed a nice increase in business," said Mr. Keller, "and this should be our best year. We have also picked up a few dairy accounts and added some retailers to the list."

Gooch's Feed is handled by only three people—a secretary and bookkeeper, truck driver and Mr. Keller, the manager. Other help is used on a part-time basis as needed.

Canada Has Same Support Price for Eggs

WINNIPEG — The federal government's deficiency payment program for eggs will be continued for another year with the prescribed national weighted average support price again set at 33¢ per dozen to producers for grade A large and extra large. This will cover the period from Oct. 1, 1960, to Sept. 30, 1961. In announcing the continuation of the program, Douglas Harkness, minister of agriculture, said the prescribed level of 33¢ per dozen is about 83% of the base price.

The deficiency payment program of support for shell eggs that has applied during the past 12 months will be continued, the minister said. Under this method, the Agricultural Stabilization Board will make a deficiency payment equal to the amount by which the national average price received by producers for the 12-month period is less than the support price.

Payments to any one producer during the 12-month period will be limited to 4,000 dozen grade A large and extra large eggs. Each producer marketing eggs through registered egg grading stations, or selling eggs to retail outlets as a producer-grader, will be eligible to participate.

NEW EXPORT TERMINAL

KALAMA, WASH. — Plans and specifications for a proposed $5 million export terminal to be erected by the port of Kalama on a 30-acre tract south of here will be issued soon. Plans are available at port offices, 940 N.W. Second St., Kalama, with deposit of $100. The facility, which will have a capacity of 3.5 million bushels of grain, will be leased by North Pacific Grain Growers of Portland.

G. A. Carlson Named To Sales Position

MINNEAPOLIS — Transfer of G. A. Carlson to the industrial processing equipment sales division of Strong-Scott Mfg. Co. has been announced by R. R. Strong, executive vice president.

G. A. Carlson

Mr. Carlson has been chief mechanical engineer for the firm for 10 years, directing much of his efforts in the sales areas. He will serve as direct sales representative to the firm's food and chemical processing accounts in Minnesota, Wisconsin, Iowa and Nebraska areas.

A member of the National Society of Professional Engineers, Mr. Carlson has prepared and had published a number of papers and articles on mixing and grinding. He has also spoken to groups throughout the country on these subjects.

Spencer Kellogg Names District Sales Chief

BUFFALO, N.Y.—Appointment of Howard A. Scheu as district sales manager in charge of the Minneapolis office has been announced by Spencer Kellogg & Sons, Inc.

Mr. Scheu succeeds Harold B. Bowen, who is being transferred to Decatur, Ill., to assume new responsibilities in the soy flour department.

Mr. Scheu became associated with the Spencer Kellogg organization October 30, 1941, in the administrative offices in Buffalo and was assigned to a position in the credit department. He remained in this department until World War II when he entered the Army Air Force in June, 1943.

He returned to the company in August, 1946, and was designated to duties in the soybean purchasing department in Chicago. In May, 1948, he was promoted to manager of this department. In December, 1952, he was transferred to the Minneapolis office as assistant flaxseed buyer and in July, 1953, became manager of this department and still remains in charge of the flaxseed buying. George M. Ordos is returning to seed buying after having spent recent years in the Minneapolis mill office.

PACAL Boralloy-350 STEEL SHEETS

SUPER STRENGTH • LONGER LIFE • LESS WEIGHT

New Boralloy 350 is made with Boron to achieve a Brinnel hardness of 350. It resists corrosion, abrasion and can be cold formed, drilled, and welded as any other steel. Yet Boralloy's superior structural strength make it economical material for almost any milling application and is equally serviceable in both wet and dry use.

Order Pacal Hammermill Hammers. There is one designed to meet your specific job requirements.

PAPER-CALMENSON & CO.
County Road B & Walnut St., St. Paul 13, Minn.
Telephone: Midway 6-9456

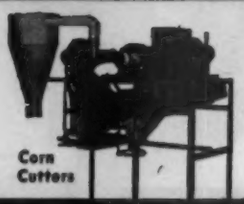
LA BUDDE
MILWAUKEE, WIS.
MALT SPROUTS
BREWERS GRAINS
DISTILLERS GRAINS
BEET PULP
AND 44 OTHER FEEDS

easy
grain fumigation
Easy-to-use Larvacide automatic sprinkler system—designed for sure killing action in flat storage. FDA has accepted Larvacide as free from requirement for tolerance. Built-in warning odor. Consult us on all grain fumigating problems.
Larvacide®
PANOGEN® COMPANY
Division of Morton Chemical Company
110 North Wacker Drive, Chicago 6, Illinois

BIG CHIEF

Pit Augers • Elevator Legs • Mixers • Scalpers • Graders • Earcorn Crushers • Steel Bins

Hammer Mills 50 to 150 H.P.



Corn Cutters

CUSTOM MILLERS SUPPLY CO.
BOX 537 MONMOUTH, ILLINOIS
MANUFACTURERS OF QUALITY MILLING EQUIPMENT SINCE 1930

CALIFORNIA EGG MONTH—Members of California Egg Council, Inc., and Hess & Clark representatives plan "Golden Goodness of California Fresh Eggs" Month for January. Seated are William J. McKay, president, California Egg Council, Inc., Vista, Cal., and Steve Haynie, western district manager, Hess & Clark. Standing are B. L. Earhart, feed products manager, Hess & Clark, and Joe Wood, director, California Egg Council, Inc., Baldwin Park, Cal.

COMPLETELY NEW!

VINELAB® CROWN PROPORTIONER

PATENT PENDING

A PRECISION INSTRUMENT THAT TRANSFORMS MASS MEDICATION INTO AN EXACT SCIENCE

The Vinelab Crown Proportioner blends precisely one ounce of medication or chemicals with every gallon of water without pumps, motors or electricity. It operates on every water line with more than 5 pounds of pressure, and has a capacity of 180 gallons of medicated water per hour. With the Crown Proportioner there's never too much or too little medication or chemicals—even when water pressure fluctuates.

Whether administering heavy consistency antibiotics, corrosive chemicals, liquid fertilizer or any of a wide variety of vaccines, drugs and disinfectants, the Crown Proportioner works steadily, accurately—without faltering. Problem of overdosage or underdosage completely eliminated.

★ No pumps or electricity needed.
★ Easily installed in existing lines.
★ Operates on water pressure alone.
★ Economical to buy and use.

Ideal for water vaccination and medication of broilers, layers and turkeys; for sanitizing drinking water, or any task that requires an exact proportion of drugs or chemicals with water direct from the line.

Retail Price
$89.50
Delivered anywhere in the U.S. May be purchased from all VINELAND distributors and dealers. Write for literature.

VINELAND LABORATORIES, INC.
VINELAND, NEW JERSEY
WEST COAST BRANCH
4048 Broadway Place, Los Angeles 37, Calif.

Grub Chemicals Approved in Canada

KAMLOOPS, BRITISH COLUMBIA—Two systemic insecticides are now commercially available in Canada for control of cattle grubs. One of the two now on the market is administered by mouth as a bolus; the other applied as a spray.

G. B. Rich of the Federal Entomology Laboratory, says that several others are under study and may be made available soon.

In British Columbia, the insecticides were used by Canada Department of Agriculture researchers in three forms: (1) As boluses administered by mouth; (2) in mixtures with concentrate feeds, and (3) as intra-muscular injections.

Used in feed mixtures, the insecticide produced results equal to or better than those with boluses. However, more tests are needed before this method can be recommended. Intramuscular injections of the insecticide produced satisfactory results, although only a few such tests have been made.

The bolus method was used in one large-scale test, in which the B.C. Department of Agriculture cooperated. Except for a few animals left untreated for comparison, an isolated herd of 1,000 range cattle received three annual treatments. In the treated cattle, the number of grubs decreased from 30.2 to 1.6 per animal. Boluses were administered to 80 cows per hour, and neither freezing temperatures nor snow flurries caused interruptions. This is an important consideration in areas where herds are kept on the range until bad weather sets in, prohibiting the use of spray, say the researchers.

All promising new materials and methods will be tested as research continues in this field.

Georgia Broiler Man Adds 2 New Houses

CARROLLTON, GA.—Willie Walker says he has just completed two new broiler houses with a capacity of 7,500 birds each in an effort to increase needed volume.

"It is part of my thinking that we won't ever make a heap of money per head, but we need volume to make it," he explained.

Mr. Walker, a row-crop farmer in addition to his chicken operation, has been gradually growing in the poultry business since he built his first house in 1955. He built an additional house during each of the next two years, reaching a capacity of slightly over 15,000.

"My two new houses will double that figure when they go into operation sometime this month," Mr. Walker stated.

He currently is running about 40 lb. of meat per 100 lb. of feed, and that means a little premium under his contract. Anything over 39 lb. is subject to premium prices, it was pointed out.

"That's the reason I built the extra houses—because I believe I can pay for them over a two-year period with the extra premium," Mr. Walker explained.

"All chickens will eventually be put in at the same time," he continued. "These two new houses, at first, will be different ages, but I want them all the same age.

"It will give us a vacation break," he explained.

The two new houses will have automatic feeders and Mr. Walker says he will be keeping a close watch to see if they do save feed through lack of waste. "I'll probably put them in the other houses if they save feed," he added.

'Assessment' of Beef Industry Published

NORMAN, OKLA.—What is called the "first comprehensive assessment of the current status and possible directions of America's beef industry" is being published by the University of Oklahoma Press.

Entitled "Beef Production and Distribution," the book is the result of three years of study of the production, processing and distributing phases of the cattle and beef industry. Author of the volume is Dr. Herrell DeGraff, professor of food economics at Cornell University.

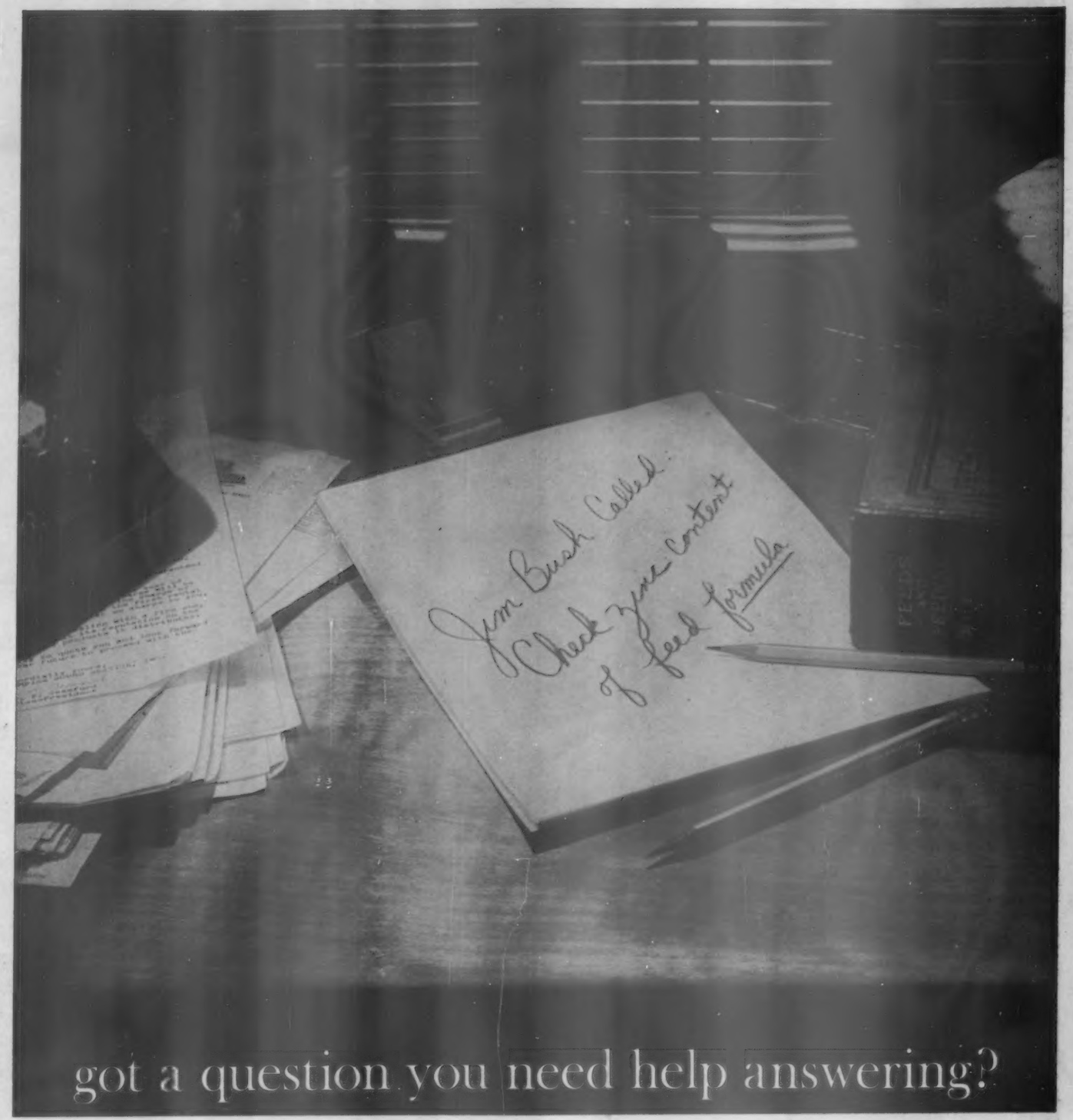
Cattle ranchers and feeders, government and industry authorities and agricultural economists cooperated in providing Dr. DeGraff with information, opinions and "trade secrets," according to the publisher.

The book is illustrated with charts, graphs and photographs.

Dr. DeGraff undertook the study and preparation of the book at the request of the American National Cattlemen's Assn. and its 140 affiliated state and local cattlemen's associations, according to the University of Oklahoma Press.

ELEVATOR SOLD

MANDAN, N.D. — Joe Wokkittel ended a long career in the milling and elevator business here when he sold his Slope Grain Elevator to the Farmers Union Grain Terminal Assn. Throughout his 78 years, Mr. Wokkittel had been connected with the milling and elevator business. His father was a miller in Germany.



got a question you need help answering?

If it's about salt and trace minerals, ask Morton. You can get the right answer, fast, from the men in Morton's Nutritional Research Department. For these men follow every new development in trace-mineral nutrition. They have at their disposal the services of the world's most complete salt research laboratory, Morton's ultra-modern laboratory at Woodstock, Illinois. And they are part of a company which, for more than 30 years, has been studying and evaluating trace mineral sources and requirements for formula feeds. This assures you a dependable source of information regarding the increasingly important field of trace mineral nutrition.

Morton's continuous study and testing program, combined with rigid quality controls, also assures you products of unvarying quality for maximum results in your feeds.

As a Morton customer, you know that the best in scientific manpower, technical facilities and modern production procedures are always working in your behalf.

In addition to technical help on salt and trace minerals for formula feeds, Morton offers a complete line of Mixing Salts—Trace-Mineralized, Iodized and Special Mixing. And Morton Mixing Salts are available everywhere in the country. For more information about the technical help and products Morton offers, ask your Morton representative or write:

Morton Salt Research Laboratory, Woodstock, Illinois

MORTON SALT COMPANY

NUTRITIONAL
RESEARCH DEPARTMENT
110 No. Wacker Drive, Chicago 6, Illinois

DOW
FEED INDUSTRY PRODUCTS

ZOAMIX®

gives growers approved coccidiosis control right up to market time!

New development in coccidiostats requires no withdrawal period . . . won't harm layers or farm animals, if accidentally eaten . . . provides the best protection against all types of coccidiosis!

Zoamix containing Zoalene added to your feed formula gives broilers better protection against coccidiosis, allows greater feed efficiency, allows faster weight gains, *plus* an extra margin of safety available in no other coccidiostat!

Zoamix has been approved for feeding to broilers right up to the time they are shipped to the market! That means no withdrawal period, no need to switch to a new feed formula prior to shipment, and the grower can act fast to market his birds at the most profitable time.

Zoamix will not injure laying hens and other farm animals if accidentally fed to them. It's safe to mix with any chick starter or broiler mix without affecting the ingredients, nutrients, or other additives in the formula. It's safe for mill workers or growers to handle.

And best of all, Zoamix is unexcelled as a coccidiostat. In fact, feed manufacturer's research laboratory tests show Zoamix is superior to eight of nine leading coccidiostats . . . and equally as effective as the other one—yet superior to that one in feed conversion and rate of gain, as shown in the following table:

RATE OF GAIN AND FEED CONVERSION COMPARISONS

Zoalene* Compared with Following Coccidiostats		A	B	C	D	E	F	Totals
Number of Comparative Tests		29	15	16	23	5	6	94
NUMBER OF TESTS IN WHICH	Zoalene Superior for Weight Gains	28	14	16	14	5	6	83
	Other Coccidiostat Superior for Weight Gains	1	1	0	8	0	0	10
	No Difference in Weight Gains	0	0	0	1	0	0	1
	Zoalene Superior for Feed Conversion	26	10	14	15	2	6	73
	Other Coccidiostat Superior for Feed Conversion	1	2	2	7	2	0	14
	No Difference in Feed Conversion	2	3	0	1	1	0	7

*the active ingredient in Zoamix

Zoamix is available now in commercial quantities at centrally located points throughout the country. Write Dow for assistance in labeling, or for technical help. The address: THE DOW CHEMICAL COMPANY, Agricultural Chemicals Sales Department, Midland, Michigan. See "The Dow Hour of Great Mysteries" on NBC-TV

THE DOW CHEMICAL COMPANY
MIDLAND, MICHIGAN

Market Survey Helps Establish Feed Mill in Illinois

By Al P. Nelson
Feedstuffs Special Writer

When a group of feed-minded persons wanted to establish a modern custom mill at Bloomington, Ill., they conducted an intensive market survey of the area among 200 farmers who have poultry, hog and livestock feeding operations.

The results of the survey indicated that most of the farmers interviewed felt there was a need for the type of mill operation planned. On the basis of these findings, the group held a meeting, inviting persons who might wish to invest in such an enterprise.

The response was excellent. At the investors' meeting, plans for the new custom mill were detailed as well as the results of the market survey.

Culmination of such a program resulted in the selling of stock and the erection of a $100,000 modern custom mill on a 7-acre tract two miles east of Bloomington on Highway 9. The firm name chosen was Prairie Feed & Grain Co. The officers are Fred Hocker, president; Dale Erdman, vice president; Verne Erdman, secretary and manager, and Henry Klafke, treasurer.

The Erdman brothers both have considerable farm experience and were among the prime advocates of the new custom mill. So also was Henry Klafke, treasurer, a former Purina dealer in Bloomington.

"Our $100,000 investment includes land, building, equipment and trucks," says Verne Erdman. "Our five man staff includes three officers."

The mill opened for business on Oct. 4, 1959, but the grand opening was not held until June 3, 1960. One free grind order for the month of June was offered to any farmer, Mr. Erdman said, and many took advantage of it. About 450 people attended the grand opening, toured the mill, had a free lunch and participated in attendance prize awards.

Rates High in State

That the market survey was sound is shown by the fact that, through good management and hard work, the Prairie Feed & Grain Co. is currently in sixth place in Purina's concentrate sales contest in Illinois for 1960.

Several reasons account for the large feed processing volume of the new mill, based largely on standard Chek-R-Mix formulas.

One is the willingness of the management to do custom mix work on a customer's own formula, if he so desires. However, reports Mr. Erdman, most of the customers, particularly hog men, use the standard Chek-R-Mix hog feed formulas.

Another reason for the growing volume of business is that the new mill does not keep hogs on three hog feed formulas, such as starter, grower and finisher. Instead, Mr. Erdman and his associates start a 50 lb. pig on a 16% ration, then break the protein level down every two weeks until the pig is on an 11% ration. This makes 6 rations all told during the hog feeding cycle and saves the customer 35 lb. of supplement over the period.

"This latter plan wins customers for us and makes a dandy sales story," states Mr. Erdman. "In the long run, the more customers we gain, the bigger our sales volume."

Customers up to 20 miles distant are served from the mill. Mr. Erdman reports that the mill has operated until 11 p.m. on some nights to get caught up on mixing orders. Capacity of the mill is 80 tons per eight-hour day. The grind and mix rate is 15¢ cwt. Delivery charges are $3 per trip.

The new mill has a steel frame and includes concrete block construction. The upper metal framework is covered with quilted-type aluminum, with green fiberglas sheets in place of window lighting. The building has a pitch tar roof. The warehouse has some glass block wall lighting. The mill is equipped with 440 REA 3-phase power.

The basement of the mill is 16 ft. deep. The large modern office and salesroom is 32 by 40 ft.

EXTERIOR OF MILL—This picture shows the exterior view of the new Prairie Feed & Grain Co. mill at Bloomington, Ill. The mill is on seven acres of land.

MATERIAL BROUGHT IN—This is where material is brought into the mill from the outside bin storage.

Mills' Equipment

The drive is equipped with an underslung Energy hydraulic hoist. There are two receiving dump sinks, each with 400 bu. capacity. One dump sink is for receiving grain bank storage. This sink has a 12 in. Prater auger which takes grain to a 70 ft. high Huss and Schlieper bucket-type leg. The grain is raised 70 ft. and distributed into two 10,000 bu. Butler bins located outside the mill. The grain is then brought into the mill as needed.

The other dump sink is used for receiving grist or ingredients. Grist goes into a 100 h.p. Prater hammermill in the basement, and then is elevated by a second Huss and Schlieper leg into the mixer. The drive also has two auger wagon discharge spots. This arrangement, points out Mr. Erdman, makes it easy for farmers with such augers to unload grain for storage or for grist. Both auger discharge spots are connected with the sinks.

There are two square metal bins above a Prater weigh buggy area. One bin holds 130 bu. corn and the other 175 bu. oats. The Prater-designed mill is so arranged that a scale hopper can later be installed.

Two Prater mixers, a 3-ton, and a 2-ton, are used. The mill also has a Prater portable molasses blender. A 20-ton molasses storage tank is located outside the mill.

Concentrates are stored in four outside Butler bins, each with a 10-ton capacity. In the feed loadout area, there are four 10-ton Fitzpatrick bins.

The scale is a 20-ton Howe.

About 90% of the firm's feed volume at present is in bulk. For bulk delivery, the firm has a 6½-ton capacity Pamco and also a 4-ton Pamco-equipped truck. A sizable portion of the feed sold is delivered direct to customers from the Purina Bloomington plant, says Mr. Erdman.

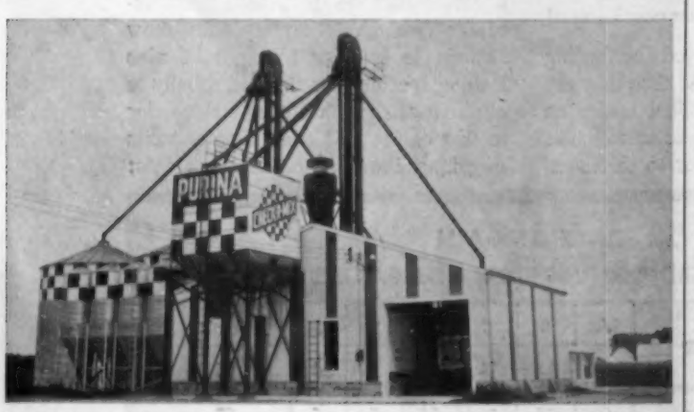
Outside Salesman

This feed mill management is definitely merchandising-minded. It has an outside salesman, Don Denniston, who visits customers and prospects in a wide area and discusses feeding problems with them.

"It takes a lot of calls to sell a new customer as a rule," reports Mr. Denniston. "I don't use high pressure. I always drop in on new farmers in the area and welcome them. I tell them I'm not after business on this call — just want to get acquainted. But I often come away with an order without asking for it specifically. I believe in making a friend of the customer and seeing if I can help him with his feed problems."

Mr. Denniston estimates that he can visit and talk with from 6 to 8 farmers per day. "You've got to take farmers' moods in stride," reports Mr. Denniston. "Never overstay your welcome. A farmer may smile at you one day and give you a big order. On your next call, he may be cold and curt. But pay no attention. Usually he's beset by his personal and farm worries. When you come back the next week he may be all smiles again."

On feed payments, Mr. Denniston always tries to set definite payment dates when a customer wants credit. If it's a 30-day charge account, he emphasizes such an account should be paid on time. "Put a definite payment date into the farmer's mind before the feed is delivered to him, and



LOADOUT AREA—This view of the mill from the side shows the feed loadout area and also the storage tanks.

WORK AT MIXERS—Dale Erdman (left) and John Klafke, son of Henry Klafke, treasurer, work at the firm's two Prater mixers. One of the mixers is a 3-ton and the other a 2-ton.

LOOK OVER CHART—Vern Erdman (left), secretary and manager, and his brother, Dale, vice president, look over a chart which they have erected showing comparative feed values.

New Process Hetrogen K

(MENADIONE SODIUM BISULFITE)

Premix*

STABILITY

98%

POTENCY RETAINED

Ordinary Vitamin K Premix

STABILITY

70%

POTENCY RETAINED

These astounding figures represent the result of years of research and experimentation by the Heterochemical Corporation to develop and perfect a new method of preparing vitamin K premixes. This assures maximum stability under the most adverse conditions of temperature and humidity. Success has been achieved, and there is now available to the feed industry, at no increase in price, a vitamin K premix they can use with the utmost confidence. With New Process HETROGEN K *the potency in the bag matches the potency on the tag,* whatever the storage circumstances. This high stability is proven by the test data summarized below:

STABILITY—normal storage conditions— 4 gm premix at average room temperature and humidity

Avg of 3 lots	% Potency Retained 30 Days	90 Days	120 Days
New Process Hetrogen K Premix	99%	98%	99%
Ordinary Vitamin K Premix	84%	67%	52%

STABILITY—field samples—ordinary vitamin K premix recently secured from feed mills

	% Potency Retained
Average of 7 lots	23%

(Actual potency of individual lots ranged from 0 to 45%)

STABILITY—adverse storage conditions— accelerated storage conditions 113°F at 80% relative humidity

Premix Potency	% Potency Retained after 30 Days: Old Style Premix	New Process Hetrogen K
16 gm/lb	49	91
8	27	92
4	39	91

The development of New Process HETROGEN K represents the only real improvement in Vitamin K premixes which has occurred since 1954. For feed manufacturers this new HETROGEN K premix means a reduction in vitamin K fortification costs, elimination of extra overfill, no storage loss and better purchasing position. You can now buy larger quantities at a price advantage, and have complete assurance that you have a product whose potency is reliable and stable, month after month.

Prices of New Process HETROGEN K premix are competitive with ordinary Vitamin K. There is no extra charge for this improved product. A range of graduated potencies from 4 to 64 grams per pound on easy mixing calcite or edible soymeal carrier are available. Let us tell you more about this superior vitamin K premix. Write or phone for full information on New Process HETROGEN K.

*patents pending

HETEROCHEMICAL CORPORATION

111 E. HAWTHORNE AVENUE
VALLEY STREAM, L. I., N. Y., Locust 1-8225

CREW AT MILL—Shown is the five-man crew at the Prairie Feed & Grain Co. mill, which includes Verne and Dale Erdman and Henry Klafke.

you have a better chance of collecting," says this salesman.

The salesroom of the new mill is equipped with large table and chairs, magazines and a modern coffee bar. Farmers like to come here for coffee periods and feed chat. Mr. Erdman also uses this salesroom for feeder meetings. He has had as many as two meetings per week here for hog raisers, with about 15-20 farmers attending each time.

As soon as possible, Mr. Erdman plans to have a demonstration poultry house and laying flock on the mill area premises. A pig parlor is also scheduled.

"We want to show customers just what a well cared for flock can do," says Mr. Erdman. "We'll keep very exact feed cost records on laying hens so that the farmer may study these records and plan his own laying flock expansion. The same goes for the pig parlor project."

Keen Mfg. Corp. Moves

MILLVILLE, N.J.—The Keen Mfg. Corp. will move into a new, larger plant here, it has been announced by Everett M. Keen, president. The 26-year-old poultry equipment firm will consolidate its operations in a 100,000 sq. ft. building here.

This acquisition will permit Keenco to step up production, according to Mr. Keen. The firm manufactures a line of automatic poultry equipment including feeders, egg collectors, pit cleaners, waterers, ventilating systems, egg graders and washers.

Part of the new plant area will be utilized for expanding research and development activities.

AGENCY APPOINTED

NEWARK, N.J. — Appointment of Black-Russell-Morris as advertising and public relations agency for Stabilized Vitamins, Inc., Garfield, N.J., has been announced. The New Jersey firm manufactures vitamin products and pre-mixes for use in poultry and animal feed. The agency also has been appointed advertising and public relations agency for Astrol Products, Inc., and All-American Nutrition Co., affiliates of Stabilized Vitamins, Inc.

Whitmoyer Establishes Facilities in England

MYERSTOWN, PA. — The establishment of a Whitmoyer manufacturing plant in England to serve the expanding British poultry industry has been announced by C. W. Whitmoyer, president of Whitmoyer Laboratories, Inc., Myerstown, Pa. The new firm, which will be known as Whitmoyer-Reed, Ltd., will be located in London. Mr. Whitmoyer said the decision to expand manufacturing activities to Great Britain was made after a year of studying various plans for making Whitmoyer products available to the British feed industry.

Glenn Trout

English plant facilities were acquired by purchasing a controlling interest in R. F. Reed, Ltd., a long established producer of chemicals. Whitmoyer-Reed, Ltd., will continue in this field as well as in the production of the Whitmoyer poultry and livestock health control, sanitation and nutritional products.

Up until this time, all Whitmoyer manufacturing operations have been conducted at Myerstown, Pa., and at Port Credit, Ontario, Canada. The Whitmoyer line of pharmaceutical and nutritional products includes antibiotics, sulfas, vitamins, minerals, vitamin oils, anthelmintics, feed additives and supplements, pre-mixes, disinfectants and insecticides.

Whitmoyer products are available throughout all of the "free world," officials noted.

The establishment of a Whitmoyer headquarters and manufacturing plant in England will provide Whitmoyer with facilities for serving the domestic market in all of the United Kingdom (England, Wales, Scotland and Northern Ireland), as well as the British Commonwealth countries around the world. The English firm can also serve the "Outer Seven" or the European Free Trade Assn. countries, namely, Sweden, Norway, Denmark, Portugal, Austria and Switzerland — with Great Britain making the seventh.

Glenn Trout, formerly superintendent at the Whitmoyer Myerstown plant, has been appointed managing director of Whitmoyer-Reed, Ltd. Paul Himmelberger, who had served as assistant superintendent at the Myerstown plant, succeeds Mr. Trout as plant superintendent. Frederick C. Shaak, formerly a Whitmoyer research and development chemist, has been promoted to assistant superintendent. J. R. Taverner, a district sales manager for a Canadian feed manufacturer for five years and previously employed by a British feed manufacturer, has been appointed sales manager for the Whitmoyer English firm.

FEED STORE SOLD

MANNING, IOWA—Lloyd Rix has sold his feed store and produce buying business to John Frees, here. Mr. Rix had operated the business since 1941. Mr. Frees was until recently manager of the Manning Grain & Feed Co.

The Greatest Breakthrough in the Mobile Industry by

CHAMPION

CHAMPION'S new unit powered with a single Diesel engine in the truck chassis cuts operating costs 50% or more! Fuel consumption reported at one gallon or less per ton of processed feed—*including fuel used on the highway!* New design means less maintenance cost—provides more owner profits.

CAPACITY — CLEANLINESS — UNIFORM GRIND AND MIX

POWER—GM 4-53 Diesel Engine. Approved installation by Detroit Diesel in an F-700 Ford chassis.

GRINDER—High-capacity, heavy-duty hammermill. Direct drive from truck Diesel without gears or belts.

FEEDER—Variable-speed 14-ft. drag—swings over 180 degrees. Drag is lifted by mechanized hydraulic power.

MAGNET — Powerful permanent-type magnet. All grain, ear corn and hay is fed over the magnet before entering the grinding chamber.

BELTLESS MIXER—Two- to three-ton mixing capacity. A genuine mixer regardless of the feed ingredients being mixed. The mixer has no drive belts or chains. It is directly-driven with all components hydraulically driven.

DISCHARGE AUGER — Fifteen-foot discharge auger swings 180 degrees and is lifted by mechanized hydraulic power. (Available with 10-ft. extension for reaching extra high bins.)

MOLASSES BLENDER—Molasses is blended and thoroughly mixed in a complete batch. Hydraulic drive actuates blender and pump.

HAY UNIT—Capacity of two to three bales per minute, with a completely clean operation.

CONCENTRATE HOPPERS—A platform hopper for unloading concentrate from the large platform directly into the mixer, and one hopper located at a lower level for ground loading.

OPTIONAL EQUIPMENT AVAILABLE

SHELLER with high discharge for loading cobs directly into truck or trailer.

AIR UNLOADING plus standard auger.

TEN-FOOT EXTENSION for discharge auger.

ROLLER MILL.

BULK CONCENTRATE CARRIER with six 600-lb. compartments.

VOLUME MEASURING UNIT measures by bushel, all grain being ground.

Get the full story on this new Champion Unit TODAY

CHAMPION PORTABLE MILL CO. 2109 COMO AVENUE SOUTHEAST MINNEAPOLIS 14, MINNESOTA

TH MIX
a complete line of packaged premixes by
THOMPSON-HAYWARD CHEMICAL CO.
2915 Southwest Blvd., Kansas City, Mo.

Fleischmann's F·I·D·Y
IRRADIATED DRY YEAST
RICH IN VITAMIN D FOR FOUR FOOTED ANIMALS

Thousands of swine worm eggs in one cubic inch of hog lot?

One female large roundworm lays up to 1,400,000 eggs a day...*
One female nodular worm lays 5 to 10 thousand eggs...
One female whipworm lays up to 5,000 eggs per day.

*KELLEY, GEORGE W., PH.D., U. OF NEBR. (VETERINARY MEDICINE, VOL. LI, NO. 3, P. 97, MARCH 1956)

Swine worms plant more eggs per acre than you could drill wheat. But, that's only part of the problem. Billions of those invisible eggs can live in the soil up to seven years...just waiting for the chance to grow up in your hogs (on your feed) and plant still another bumper crop of eggs!

Hygromix in the feed is the only worm control method on the market that helps strangle worm loss at the source. Hygromix kills adult worms and prevents them from laying new eggs. The same continuous killing action hits baby worms before they can grow to egg-laying maturity. Why fight the problem every now and then when you can control it every day with Hygromix? Try it!

HYGROMIX®
(3. hygroscopicus fermentation products)
ELANCO

Makers of STILBOSOL® (diethylstilbestrol premix) • Streptomycin Sulfate • Vitamin B_{12} • Micro-Pen® (special coated procaine penicillin G)

ELANCO PRODUCTS COMPANY • A DIVISION OF ELI LILLY AND COMPANY • INDIANAPOLIS 6, INDIANA

Crotalaria Seed Found In Soybean Shipments

ATHENS, GA. — Crotalaria seeds, which are poisonous to poultry and livestock, have been found in shipments of soybeans from Georgia, officials of the American Soybean Assn. have notified agronomists for the University of Georgia agricultural extension service.

This has created a serious problem for Georgia soybean producers, J. Ralph Johnson, head of the extension agronomy department, declared.

He advised that all poultry and livestock are susceptible to the poison in crotalaria and there is no tolerance for the poisonous seed in soybeans used for feed.

The company which buys more U.S. soybeans for overseas processing than any other has announced that it will refuse to take delivery on any lot of soybeans in which crotalaria is found in any quantity, Mr. Johnson said.

Mr. Johnson said he has received notice from George M. Strayer, executive vice president of the American Soybean Assn., that he has advised all exporters of soybeans to protect themselves by being sure they ship no lots of soybeans containing the poisonous seed.

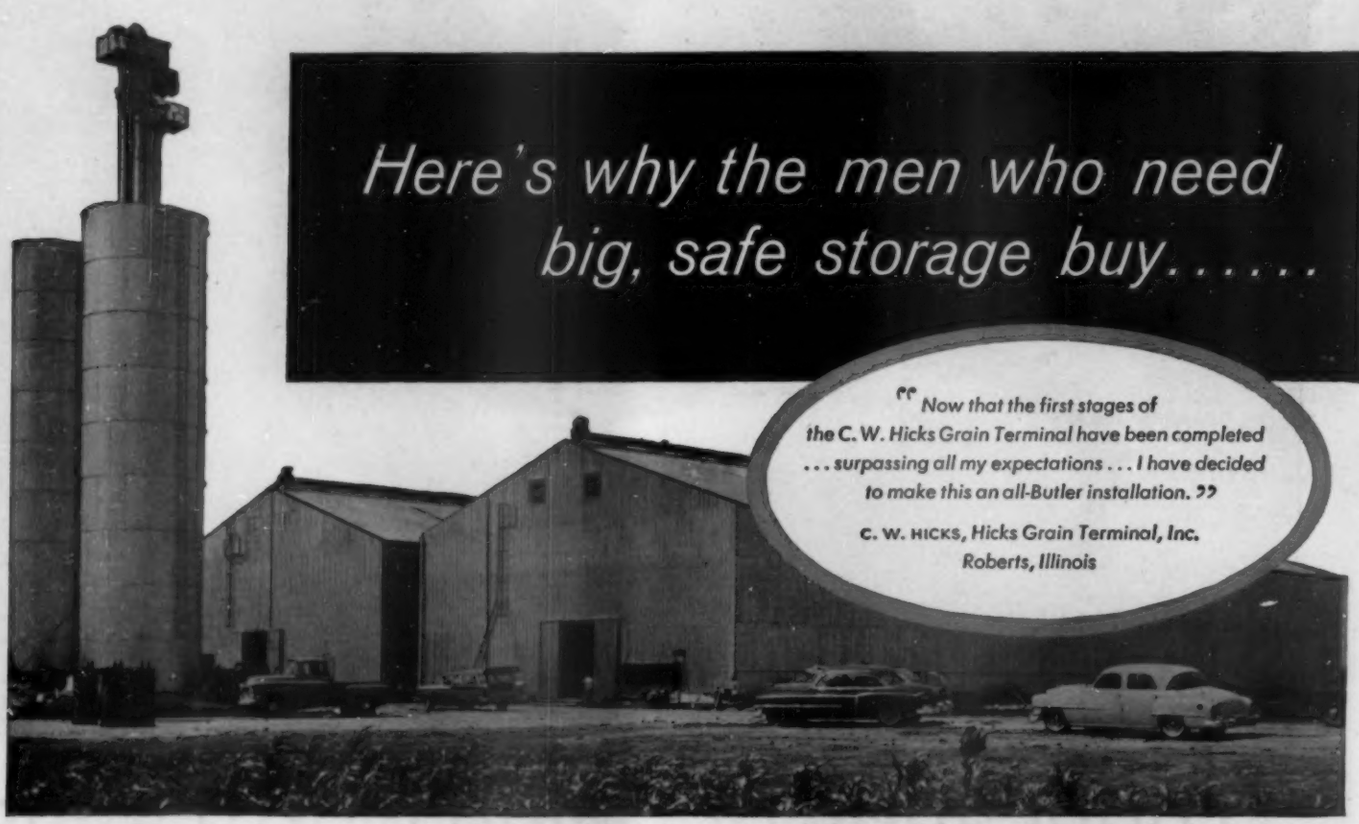
"Soybean farmers should take the following steps to prevent crotalaria seed in their shopments," Mr. Johnson urgently advised: "(1) Inspect fields and rogue all that have crotalaria; (2) check all combined soybean seed in storage for crotalaria seed. If crotalaria is present in any quantity, have the seed cleaned and recleaned by the best seed cleaner in the area. Seed cleaning attachments on combines will not do the job."

Swisher Feed Unit Holds Feed School

DANVILLE, ILL.—"The inherent advantages of the local mill manufacturing feed with super concentrates" were cited as a strong factor in the growth and expansion of the local mill as Swisher Feed Division of the Wm. Davies Co. held its 1960 Feed School here. "Increased profits for the mill as well as the lower costs for the feeders" were among points emphasized.

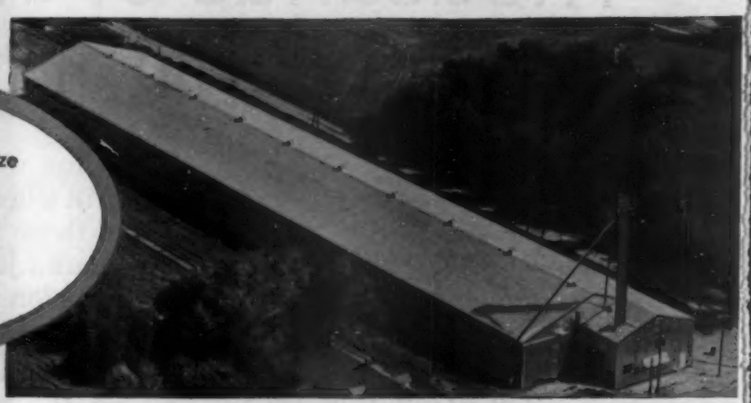
Those in attendance were instruct-

Here's why the men who need big, safe storage buy.....



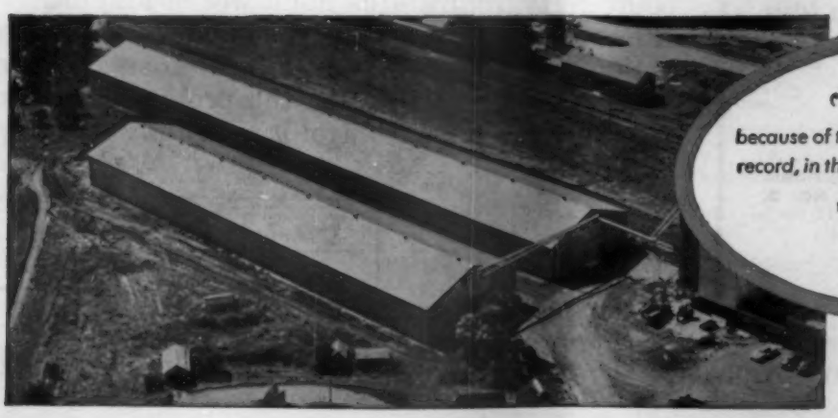
"Now that the first stages of the C. W. Hicks Grain Terminal have been completed ... surpassing all my expectations ... I have decided to make this an all-Butler installation."

C. W. HICKS, Hicks Grain Terminal, Inc.
Roberts, Illinois



"We could not afford to risk buying grain storage that might jeopardize our success. That's why we chose a Butler building and equipment."

W. C. FERGUSON, Vice President
Upland Grain Company
Upland, Nebraska



"We chose Butler buildings because of their low-cost-per-bushel-stored and their record, in this area, of having no break-out trouble."

PAUL K. CROWNER, Manager
Giltner Grain & Supply, Inc.
Giltner, Nebraska

ed in the following areas: Dairy cattle, swine and poultry nutrition, Dr. W. K. Meyer, livestock and poultry nutritionist from the company's home office; selling and salesmanship, Robert Freeman, Swisher sales manager, and advertising and promotion, Henrie L. Miller, Swisher advertising manager.

W. L. Lavery, general manager, spoke on integration in the feed industry, general policy matters and the future of the Swisher Feed Service mills.

The feed school is an annual event of the division.

Nebraska Feed Group Convention Plans Set

LINCOLN, NEB. — Dates for the 33rd annual convention of the Nebraska Grain & Feed Dealers Assn. have been announced by Ray Cogil, president.

The convention will be held March 8-9, 1961, in Omaha. Headquarters hotel will be the Sheraton-Fontenelle.

A display-type convention will again be held with the meetings and exhibits at the Omaha Civic Auditorium.

Wednesday, March 8, will be devoted to the feed program with the Feed Dealers Smoker the climax to the feed program. The smoker is a Nebraska fried chicken affair for the men. It is sponsored by the allied trades and the association.

Thursday will be devoted to the grain industry with talks and discussions related to the grain trade. The convention will come to a close March 9, with the annual cocktail party to be held at the Sheraton-Fontenelle.

Further information will be available as convention plans progress.

Profit-Sharing Told

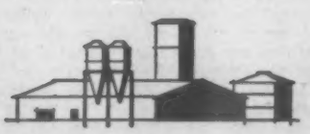
CHATTANOOGA, TENN. — Employees of the Quaker Oats Co. here recently began cashing profit-sharing checks totaling $52,241, according to James C. Klima, manager.

The distribution was made after the company's announcement of record earnings for the business year which ended June 30.

Mr. Klima said the bonus, paid annually since 1936, added an average of more than 3½ weeks' extra pay to employees' regular earnings this year.

BUTLER
"I feel sure that Butler is the best quality building and has the most complete design in flat storage."
C. W. JACKSON, President
Indianapolis Grain Warehouse Corp.
Indianapolis, Indiana

FLAT OR VERTICAL



BUTLER IS THE LOWEST-COST SAFE STORAGE

Grainmen have found that big, flat storage is a sound investment . . . a tested way to store and handle large volumes of grain.

But providing buildings strong enough, safe enough for really big storage, takes specialized knowledge of grain loading pressures and expansion factors, metal fabrication techniques and building construction methods.

Butler and the nationwide network of Butler Builders have provided the grain storage industry with big, safe, flat storage for years. From this experience Butler and Butler Builders have developed the knowledge and techniques needed to solve your special grain storage and handling problems.

You, too, can take advantage of Butler's experience and know-how to build big, safe, profitable storage.

CELEBRATING 60 YEARS BUTLER FABRICATING METALS

BUTLER MANUFACTURING COMPANY

7402 EAST 13th STREET, KANSAS CITY 26, MISSOURI

Manufacturers of Metal Buildings • Plastic Panels • Equipment for Farming, Transportation, Bulk Storage, Outdoor Advertising • Contract Manufacturing
Sales offices in Los Angeles and Richmond, California • Houston, Texas • Birmingham, Alabama • Kansas City, Missouri • Minneapolis, Minnesota
Chicago, Illinois • Detroit, Michigan • Cleveland, Ohio • New York City & Syracuse, New York • Washington, D. C. • Burlington, Ontario, Canada

Fall Cattle Prices Expected to Remain At Current Levels

WASHINGTON—The U.S. Department of Agriculture reports that fed cattle prices this fall are expected to continue close to current levels but could advance moderately late this year unless grass cattle marketings are unusually large.

Prices of feeder cattle recently have been below a year earlier levels by a greater margin than prices of fed cattle. The supply of young cattle is greater than last year and increasing marketings will probably cause prices of feeders to decline. But the decline is likely to be moderated by fairly good prospects for average feeding returns. Prices of sheep for feeding have also been lower than last fall.

Numbers of cattle and calves on farms and ranches Jan. 1 will probably set a new high record of 105 million head, up 12% from the low of 93 4 million Jan. 1, 1958, according to USDA. The department sa'd that this expansion in numbers has already led to cyclical increases in slaughter and lower prices. Barring widespread drouth, cattle numbers will probably continue to rise during 1961, it is pred'cted. Eventually, however, downtrending prices will reach a point unfavorable to further expansions.

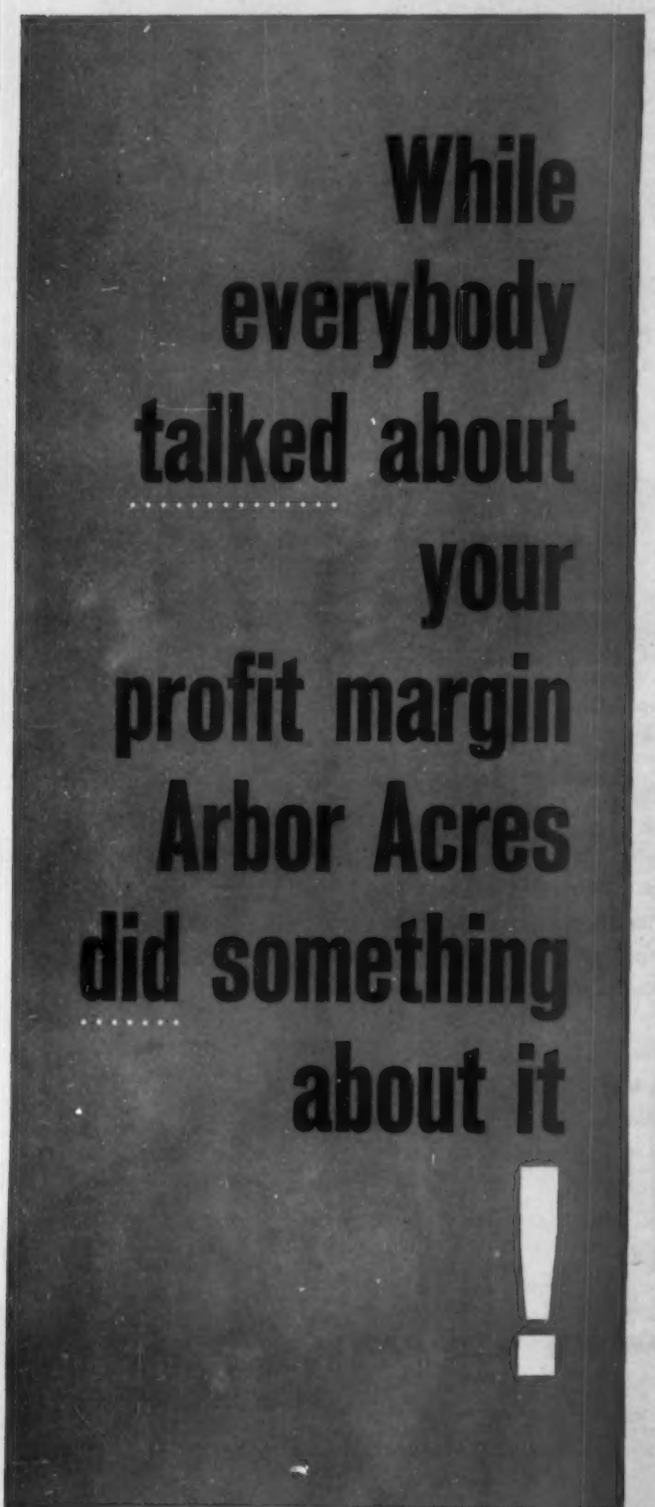
Cattle are moving into feedlots later this year than in 1959. In many years a sizeable movement got underway by September, according to USDA figures. The number of cattle placed on feed in April-June in 21 feeding states was 6% smaller than a year earlier. The margin in numbers on feed over a year ago declined from 8% April 1 to 4% July 1.

Because of divergent trends in marketings and placements, cattle on feed inventory has probably been reduced since July 1. The Oct. 1 figure was expected to be about the same as a year earlier. However, the supply of long-fed, well finished cattle this fall will probably be a little larger than last fall. Late this fall there may be an interval during which fewer such cattle will be available and supplies of short-feds will be small. This would result in moderately stronger fed cattle prices late this year or early in 1961, USDA states.

Unless feeder cattle marketings reach a level considerably higher than appeared likely at the time of the USDA report compilation, the seasonal decline in prices will be considerably smaller this fall than last. In 1959 feeder prices declined $3-4 from September to the end of the year. However, prices have already declined more during the past year than have prices of fat cattle. Feeder steers at Kansas City are $4 per 100 lb. below the price of choice slaughter steers at Chicago. Last September feeders were $2.25 below fat steers.

Lamb prices are expected to trend downward this fall as they generally do at this season of the year, but the decline may be less than in the past two years.

USDA reports that lambs are coming to market off western ranges at lighter weights this year than in 1958 or 1959 giving producers more flexibility in feeding programs without danger of getting lambs too heavy for top prices.



Arbor Acres — Mount Hope Queens will soon be available from established hatcheries at the low price made possible by Arbor Acres' unique, new distribution method. Strain cross breeder flocks are now being housed on Arbor Acres' farms close by every important egg-producing area. The Queen hatching eggs these flocks produce are being offered to hatcheries near you. Since Arbor Acres' facilities for breeding research and nationwide distribution are already in operation, there is no need to write off a large initial investment by the sale of breeding stock at premium prices. Your hatcheryman pays only one price . . . he pays no royalties and no supply flock overhead . . . he faces no glut of eggs when prices are down. He saves and passes this saving on to you along with a great strain cross pullet.

Since it was first introduced, the Queen has made an outstanding record in Random Samples and on commercial farms for production, conversion and profit. Few will deny the results obtained — on wire as well as on the floor — by Mount Hope breeding research, since there is Mount Hope blood in almost every well-known White Leghorn available today! But the Queen has one secret she has never shared — egg quality, inside and out! As automation takes over egg handling, the tough, uniform, chalk-white shells of Queen eggs will pay you a premium . . . as quality egg programs take hold, the extra days of shelf life in Queen eggs will help you hold your markets. Unless you are *entirely* satisfied with the bird you are now housing — and with the price you have to pay for it, tell your hatcheryman you want to try a flock of ARBOR ACRES — MOUNT HOPE QUEENS. *Right away.*

AA Arbor Acres

Breeding better birds for better business

General offices, Research: GLASTONBURY, CONN.
Egg Production Research; NORTH STONINGTON, CONN.

Concord, N.C. • Springdale, Ark. • Blairsville, Ga. • Skowhegan, Me. • Carthage, Miss. • San Luis Obispo, Calif. • Albertville, Ala. • Thorntown, Ind. • Tanaka, Tex. • Aprilia, Italy

Nopco Chemical Co. Honors Chairman

NEWARK, N.J.—Ralph Wechsler, chairman of the board of Nopco Chemical Co., was honored recently at a testimonial dinner marking his retirement from the company after almost 40 years of service.

Ralph Wechsler

More than 200 employees attended the dinner at the Down Town Club, Newark, N.J., and presented him with a set of golf clubs.

Mr. Wechsler joined Nopco as a chemist in 1921. He later served on the board of directors and as treasurer of the company. He was president of the firm from 1955 to 1959 and will continue as chairman of the board.

One of the early members of the company, Mr. Wechsler was responsible for much of its progress including the founding of Vitex, the vitamin division and of the plastics plant. He directed the company's acquisition of its European plants and placed Nopco on the New York Stock Exchange.

South Dakota Counties 'Emergency Areas'

WASHINGTON—Ezra Taft Benson, secretary of agriculture, has designated six counties in South Dakota as emergency areas where farmers and ranchers may buy government-owned feed grains at current support prices.

Counties designated are Butte, Custer, Fall River, Lawrence, Meade and Ziebach.

Previously 34 counties in Mississippi, 18 parishes in Louisiana and nine counties in Wyoming had been designated as emergency areas under this program. In all, 67 counties or parishes are currently designated under the livestock feed program.

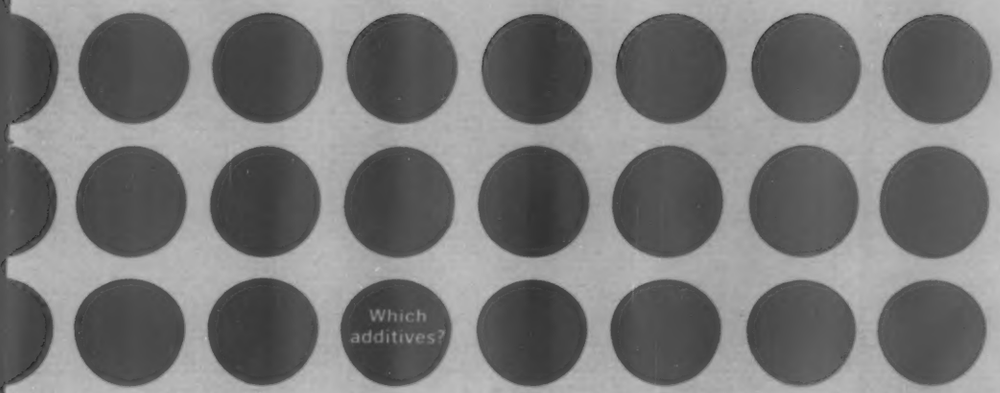
Legislation authorizes the secretary of agriculture to sell feed grains owned by the Commodity Credit Corp. at current support prices to provide feed for livestock where he determines there is an emergency area as defined by law.

The designated South Dakota counties have had a severe drouth, reduc'ng feed grain and hay supplies and limiting range forage, making them eligible for assistance until March 31, 1961.

Raymond Promotion

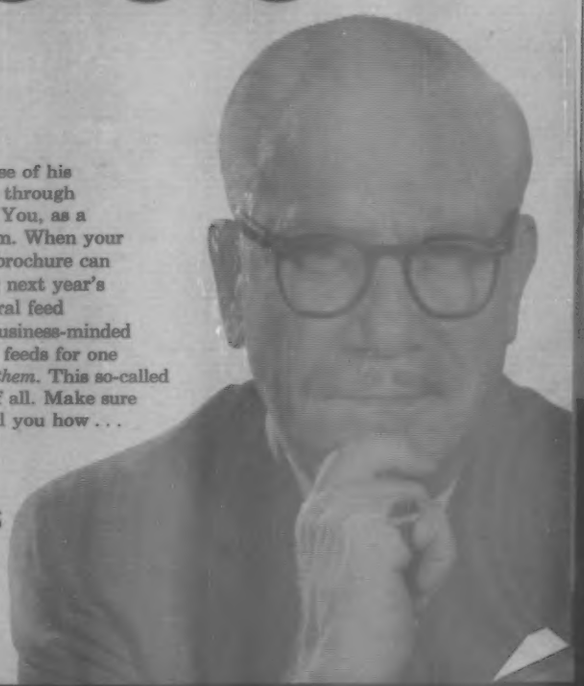
MIDDLETOWN, OHIO — A. W. Hines has been appointed vice president in charge of manufacturing, and a director of Raymond Bag Corp., division of Albemarle Paper Mfg. Co., Richmond, Va.

Mr. Hines has had many years of experience in the paper industry, joining Albemarle Paper in 1930, and coming to Raymond in 1955 in the capacity of production manager. He will be in charge of all phases of manufacturing in Raymond's Richmond and Middletown plants.



Decision

Today's poultry grower is studying every phase of his operation, looking for ways to increase profits through higher feeding efficiency and product quality. You, as a feed man, are also concerned with this problem. When your customers profit, you profit. That's why this brochure can be helpful to you now, as you are formulating next year's feeds. In the next few pages, we describe several feed additives from Dr. Salsbury's Laboratories. Business-minded growers are asking for these additives in their feeds for one big reason: *because it is more profitable to feed them.* This so-called "grower profit test" is the most critical test of all. Make sure your feeds can pass it. The following pages tell you how . . .



Dr. SALSBURY'S LABORATORIES
Charles City Iowa

Unistat® is still the No. 1 coccidiostat—protects against all 3 common kinds of coccidiosis

Today, 2 out of every 3 broilers are raised on feed containing Dr. Salsbury's Unistat. In fact, over a billion birds a year get Unistat in their feed. Why has Unistat gained such widespread acceptance in less than three years? Because growers everywhere found that Unistat prevents coccidiosis best and that it profitably increases feeding efficiency.

Why does Unistat prevent coccidiosis best? Because its unique combination of ingredients gives unequalled protection against all 3 common kinds of coccidiosis—those caused by *Eimeria necatrix*, *E. tenella*, and *E. acervulina*. No single drug has ever been found that equals Unistat's total coccidiostatic qualities. Unistat, in your feed for broilers and replacement chicks, assures your customers of protection against all 3 kinds of coccidiosis, not just one or two. And Unistat also provides other profit-making extras, such as faster growth, increased feeding efficiency, and better pigmentation.

Start poults faster,
start them healthier,
grow them stronger

Polystat®

There is no other coccidiostat available with the wide range of associated benefits supplied by Polystat. It's the additive that gives your feeds the profit-making extras: poults gain more—*on less feed per pound of gain.* They start faster and grow into stronger, healthier birds. They're healthier because Polystat protects against **coccidiosis, large roundworms, tapeworms, bluecomb, hexamitiasis.** They're stronger because they don't suffer setbacks that go with these diseases. Then, too, there's a lot of time and trouble saved by getting all these benefits from just one additive: Dr. Salsbury's Polystat. With Polystat in your feed, your customers can forget about using a *separate* wormer, a *separate* growth stimulant, and a *separate* coccidiostat.

Scores highest
in weight gain,
feed efficiency,
fleshing, and
blackhead prevention

Histostat®*-50*

Turkeys need protection from blackhead from the time they go on range until a few days before market. Histostat-50 has been proven to prevent blackhead best and to give your feeds other important benefits. The 1959 Turkey Disease Control Report published by the University of Minnesota summarizes research showing that Histostat-50 *scored highest on every point:* It **prevented blackhead best;** Histostat-fed birds had **better fleshing,** they were best in **feed efficiency** among all commercially available compounds tested, and Histostat-50 birds had the **highest average weights** in the test. These are profit-building extras your feeds can provide. This year, more turkeys are being fed on Histostat-50 than ever before—and with a high degree of profit as a result.

Disease-fighting antibiotics team up for fast, economical weight gains—STREPCILLIN F-25

GIVE your feeds more disease-fighting benefits with Dr. Salsbury's new antibiotic feed additive, Strepcillin F-25. Strepcillin F-25 contains **6.25 grams procaine penicillin and 18.75 grams streptomycin** in each pound. It stimulates fast, efficient gains because two antibiotics are better than one in protecting health. They work together as a team, each supplementing the other. Strepcillin F-25 gives pigs and poultry the boost they need for top profits—by helping them overcome the effects of today's high disease levels. Strepcillin F-25 can be mixed at different levels to stimulate growth and egg production, improve feed efficiency, and fight disease in chickens, turkeys, swine. Strepcillin F-25 in your feed works the clock around, fighting infection and building profits—for growers, feed manufacturers, and dealers.

3-NITRO®

—helps growing birds mature more quickly
—helps layers produce more eggs on less feed—lowers cost of swine production

WITH Dr. Salsbury's 3-Nitro Powder in your poultry feeds, you are helping growers keep costs down and efficiency up. This is especially true of laying flocks. Records indicate that 3-Nitro-fed flocks lay up to a dozen more eggs per hen per year—on ¼ lb. less feed per dozen eggs. Depletion costs are reduced markedly as flocks show lower mortality and better all-around health. And all these benefits cost only pennies per layer per year. No wonder poultrymen everywhere are turning to 3-Nitro. Swine raisers, too, are asking for 3-Nitro in feed because of its many benefits. Tests have shown that growing pigs average 16% heavier—*on 5% less feed*, with 3-Nitro in the ration. Also, 3-Nitro reduces backfat, gives more uniform finish, reduces the number of runts and disease troubles. Whether for poultry or swine, 3-Nitro is safe, palatable, stable, and compatible with normal feed ingredients.

Just one pound of TRISTAT® *prevents 3 diseases in 3,000 chicks or 2,000 poults*

TRISTAT is a feed additive that aids in the prevention and treatment of *fowl typhoid*, *paratyphoid*, and *pullorum* in chickens and turkeys. It is mixed at the rate of 2 pounds per ton of an all-mash ration for prevention and at twice that concentration for treatment. Contains 75% active ingredient, *3, 5-Dinitrobenzamide*. Growers will like Tristat's efficacy, safety, and its economy of use. You'll like its stability and ease of handling. It presents no unusual mixing problem and is unaffected by steaming or pelleting. It doesn't lose potency during long periods of storage as a concentrate or in feed.

TINOSTAT® *prevents coccidiosis and hexamitiasis in turkeys*

TINOSTAT is a feed additive that contains 25% **dibutyltin dilaurate.** It may be given continuously for the first 10 or 12 weeks. By that time, turkeys generally have acquired an immunity to both coccidiosis and hexamitiasis. Tinostat is mixed in an all-mash ration at the rate of 3 pounds per ton. It is highly *effective* and *palatable*, *safe* and *economical*. It presents no unusual mixing or formulating problems. With Tinostat in your feeds, you can offer your turkey growers positive protection against two of the most troublesome turkey diseases, coccidiosis and hexamitiasis.

Wormal is a complete wormer—gets all 3 common types of poultry worms

Wormal Granules in your chicken and turkey feeds give your customers the most effective protection against costly worm damage. Only Dr. Salsbury's Wormal contains **dibutyltin dilaurate,** a drug that removes 3 times as many species of tapeworms—heads and all—as any other wormer. Wormal also removes between 95% and 100% of all large roundworms and cecal worms.

This kind of effectiveness is what growers expect from your feeds. It takes the guesswork out of worming and puts the profit in—for them and for you. You'll like Wormal's easy handling qualities. Granules are crumblized for easy mixing or may be added to feeds prior to pelleting. You can build tonnage and more big-ticket sales if your chicken and turkey feeds contain Wormal, the complete wormer that removes all 3 major kinds of poultry worms.

WAZINE® *Granules for fast, thorough large roundworm removal*

Mix Wazine Granules in your feed to help customers who want to get rid of large roundworms from chickens and turkeys, or large roundworms and nodular worms from swine. Wazine contains **piperazine,** one of the most effective anthelmintics known to veterinary science. Wazine is a low-cost, easily handled granule-type feed medication that is safe, palatable, and effective.

One pound treats 2,000 chicks 4 to 6 weeks old, 1,000 over 6 weeks, 1,000 turkeys, or 40 fifty-pound pigs.

Announcing...

NEW
VITAMIN A-30
and A-10
are stable, low-cost sources of Vitamin A for all poultry and livestock

Now you can get this all-important feed ingredient direct from Dr. Salsbury's Laboratories in two forms: "Vitamin A-30" (containing 30,000 U.S.P. Units per gram) and "Vitamin A-10" (containing 10,000 U.S.P. Units per gram).

These dry, stabilized palmitate forms of Vitamin A are encased in spherical beadlets ranging from 30 to 80 mesh in size. The beadlets have a gelatin-sugar-starch base and are mixed with yellow degerminated corn meal as a carrier. They are free-flowing for easy mixing when used to fortify feeds, premixes, concentrates, pellets, and other such products for livestock and poultry.

Vitamin A-30 and Vitamin A-10 are products of superior stability—they retain potency during feed formulation, handling, and storage. These new vitamin products are made, sold, and serviced *to bring you, the feed manufacturer or mixer, a most dependable, low-cost source of Vitamin A.*

New Vitamin A-30 and Vitamin A-10 are made to the same exacting high standards as the other famous Dr. Salsbury products described in this brochure.

Management and medication team up to make today's fine feeds even better

RULES FOR POULTRY AND LIVESTOCK MANAGEMENT

to help maintain good health and control disease

1. Select high-quality, disease-free livestock and birds. The best of feeds is no substitute for good breeding. And the end result (eggs or meat) is seldom any better than the genetic characteristics of the birds or animals growers start with.
2. Care for young animals or birds properly. This includes vaccination and all other such preventive measures. The grower who markets 99 broilers or turkeys out of a hundred takes every precaution during those critical first few weeks.
3. Practice good housekeeping throughout the year or life cycle of the animals or birds involved. This includes adequate housing, watering, heating, ventilation. It also means a strict sanitation program, clean pastures, and litter.
4. Give continuous attention to birds' and animals' nutrition so as to provide optimum disease prevention and growth stimulation. The most successful growers are those who reinforce good management with a sound feed additive medication program.
5. Observe flocks and herds daily, so as to detect health problems before they reach the epidemic stage. Nowhere else is timeliness any more important than in the field of disease control. Growers should isolate sick birds or animals immediately.
6. When trouble breaks out, get an accurate diagnosis at once. Competent diagnostic advice can be obtained through either state or commercial facilities.
7. Treat sick birds or animals promptly. Use a reliable recommended treatment in accordance with the diagnosis of the condition.

We, here at Dr. Salsbury's Laboratories, gladly subscribe to the above management rules. If followed faithfully, they will repay the poultryman or livestock raiser many times over through lower disease loss and higher profits.

They will enable your feeds to perform more creditably. In support of this belief, we are happy to make available to you the attractive, colorful certificate shown above. The actual certificate is 8½ by 11 inches and suitable for framing. Let us know how many you want.

Also, please write, wire, or phone for further information about any of the products described in this brochure.

Dr. SALSBURY'S LABORATORIES
Charles City Iowa

MANAGEMENT AND MEDICATION MAKE TODAY'S FEEDS EVEN BETTER

Blackstrap Molasses Firms Agree to Order Issued by FTC

WASHINGTON — Southwestern Sugar and Molasses Co., New York, several of its subsidiaries, and other leading concerns in the blackstrap molasses industry "have consented to a Federal Trade Commission order forbidding them to continue price fixing and other conspiracies to eliminate competition," the Federal Trade Commission reports.

The respondents' agreements "to discontinue these and similar practices are for settlement purposes only and do not constitute admissions that they have violated the law," FTC points out in a news summary.

The other parties subject to the order are:

Southwestern Subsidiaries—Standard Molasses Co., Inc., Milam St., Beaumont, Texas, and Imperial Molasses Co., Ltd., Board of Trade Bldg., Montreal, Canada.

Southwestern Affiliate — Molasses Products Co., 801 Queen and Crescent Bldg., New Orleans, La. This concern is presently inoperative.

Southwestern Business Affiliates—Industrial Molasses Corp., Leonia, N.J., and Benjamin H. Ticknor, II, Albert A. Teeter, Jr., and John P. Manard, president, vice president, and vice president, respectively, and National Molasses Co., Oreland, Pa., and Joshua Epstein, Samuel G. Fisher, Joseph M. Rubenstone, and Sidney M. Cohen, president, vice president, vice president, and secretary-treasurer, respectively.

Others—Czarnikow Rionda Co., 106 Wall St., New York City, George A. Braga and Joseph B. Clifford, president and assistant secretary, respectively; and E. J. Kramer, former manager, molasses department, J. H. Leftwich & Co., Inc., Alabama State Docks, Mobile, Ala., and J. H. Leftwich and Frank M. Hicks, Jr., president and vice president, respectively; Molasses Trading Co., 503 Jones Bldg., Corpus Christi, Texas, a subsidiary of Czarnikow and Leftwich, J. H. Leftwich and Frank M. Hicks, Jr., president and vice president, respectively; and Harold Fink, E. J. Kramer, and R. L. McCauley, formerly comptroller, assistant vice president, and sales manager, respectively; Lutz H. Frieler and Stanley J. Posner, employees of Southwestern; Thomas P. Gallagher, formerly the principal officer of another concern cited in the FTC's complaint of April 1, 1959, New Mexico Timber Co., Albuquerque, N.M., and Peter G. Berdeshevsky, a former officer of Southwestern, Molasses Products, Standard, and Imperial.

Complaint Dismissed

The complaint was dismissed as to New Mexico Timber Co. and a Mexican subsidiary of Southwestern, Campania de Mieles de Mexico. All of the former's operating assets were sold, effective Feb. 28, 1959, and since then its only business has been transactions in securities; previously, its blackstrap molasses activities were incidental to its main business of cutting and selling timber. The latter has sold its business assets and is now in the process of liquidation, FTC reports.

The charges also were dismissed as to Abram I. Kaplan, deceased, formerly an official of Southwestern, Molasses Products, Standard, Imperial and the Mexican subsidiary.

In taking this action, ths commission adopted an initial decision by John Lewis, hearing examiner, based on an order agreed to both by the respondents and the FTC's Bureau of Litigation.

The complaint charged that Southwestern, Czarnikow, J. H. Leftwich, New Mexico Timber, Molasses Trading, Molasses Products, and Standard Molasses "conspired in fixing identical delivered prices, coercing competitor-customers to abide by them, boycotting competitors not adhering to these fixed prices, dividing territories and accounts among themselves and designating one of their number to be the sole bidder on available supplies."

Other principal allegations were that Southwestern, Industrial, National, Molasses Products and Imperial "carried out the unlawful price fixing and division-of-market activities through 'Midwestern Terminals,' a joint operation ostensibly formed for legitimate purposes; and that Southwestern and the Mexican subsidiary conspired to prevent a domestic competitor of the parent from buying blackstrap molasses in Mexico."

Golf Teams Picked

PORTLAND, ORE. — The annual golf tourney matching picked teams from the Oregon Feed & Seed Dealers Assn. and the Washington State Feed Assn. will be played Oct. 21 over the Portland Country Club course.

Announcement of the date was made by Bob Seufert, Oregon team manager.

Kewanee HYDRAULIC TRUCK DUMPERS

BUILT TO HANDLE SMALL TRUCKS TO THE LARGEST TRACTOR-TRAILERS

Available in 25 ft., 45 ft., 50 ft. and 60 ft., platform sizes. Powerful — Safe —Fast — Economical. Expertly engineered — outstanding features insure maximum performance.

Over 1000 installations throughout the country
WRITE FOR LITERATURE

SCREW CONVEYOR CORPORATION
734 HOFFMAN ST. HAMMOND, IND. • WINONA, MISS. • SANTA CLARA, CAL.

He looks right through

Lime Crest Trace-Mineral Pre-Mixes . . .

The Lime Crest spectrographer carefully "reads" spectrogram after spectrogram just to be sure that Lime Crest Trace-Mineral Pre-Mixes meet the guarantees that have been made for them. Nothing is left to chance . . . each pre-mix *must* be right. That's why you can depend on the trace-mineral pre-mixes you buy from Lime Crest. But Lime Crest has much more than painstaking control to offer. Almost 15 years ago the Lime Crest Research Laboratory was established — the only research Laboratory in the industry operated primarily to study the role of trace minerals in animal nutrition and to develop better trace-mineral pre-mixes. From the Lime Crest Research Laboratory have come many important developments: new and better ingredients of trace-mineral pre-mixes — ingredients which are not only fully compatible with one another but also more compatible with the fat-soluble vitamins in your feed. And Lime Crest Trace-Mineral Pre-Mixes remain free-flowing indefinitely; they do not cake or "set". If you are not already using a Lime Crest Trace-Mineral Pre-Mix*, write or call us for more information . . . at least, let us send you our latest folder and price list.

**If you want a special pre-mix, we can satisfy your requirements . . . send us your specifications for a prompt quotation.*

Lime Crest

LIME CREST
TRACE MINERAL PRE-MIXES

Limestone Products Corp. of America, Newton, N. J. — World's Largest Producer of Crystalline Calcite Products
Canadian Distributor: The Ash Chemical Company, 353 St. Nicholas Street, Montreal 1, Province of Quebec

ONE SHOT
Many Feed Manufacturers Rely Solely on
Western Yeast Cultures
In Their Feeds for
1. Natural B Vitamin Source.
2. U.G.F. Source.
3. Antibiotics (natural lactic)
4. Digestive Enzymes.
And They Are Producing Good Feeds at Less Cost.
Write:
WESTERN YEAST COMPANY
Chillicothe, Illinois

It's DANNEN for GRAIN and FEED INGREDIENTS

- Bran
- Shorts
- Linseed Meal
- Cottonseed Meal
- Soybean Oil Meal
- Meat Scraps
- Sugar
- Defluorinated Phosphate
- Feed Supplement Urea
- Dried Skim Milk
- Dried Buttermilk

DANNEN

DANNEN MILLS, INC.

Grain and Jobbing Division
St. Joseph, Mo.
Phone: Adams 3-6161

Planning a new mill or elevator? KELLY DUPLEX can help you.

Maybe you've been thinking about a new mill—a new addition—or a new machine. Then again, maybe you've just been wondering how you can get MORE from your present space.

Whatever it is, we would like to talk to you about it.

We've shown a lot of others how good machinery and good planning can do wonders for their capacity, their efficiency, and their profits—at COMMON SENSE COST. The chances are we can do the same for you.

Don't hesitate to send us the coupon. There will be NO obligation—and NO high pressure salesmanship. We don't do business that way.

Duplex Mill & Mfg. Co., Springfield, Ohio
We would like to talk to you about planning. We're interested in .....
.....
NAME .....
FIRM .....
ADDRESS .....
FEEDSTUFFS

NEW MILL—This new feed mill erected by Harney County Farm Supply stands at Burns, Ore. Structure at far left, made of native 2 by 8 timbers, is for grain storage. Jack McAllister, owner of the feed and ranch supply business, also has a store at Winnemucca, Nev.

Oregon Firm Builds Sales With Slant to Big Cattle Ranchers

By Jess Blair
Feedstuffs Special Writer

A trade expansion plan which, in 10 years, has gained substantial sales volume for a western feed and ranch supply business is pointed in the direction of ranchers with big cattle operations.

Jack McAllister's Harney County Farm Supply of Burns, Ore., serves a big area, so Mr. McAllister planned big when he rebuilt the firm's feed plant after it was all but destroyed by fire five years ago.

Mr. McAllister's operation is ideally set up for serving cattlemen of huge Harney County, Oregon, and northern Nevada. In addition to the plant at Burns, Mr. McAllister has a feed and ranch supply store at Winnemucca, Nev., about 100 miles south of Burns. The Winnemucca store does almost half as much business as the Burns unit.

Most of the firm's customers are winter feeders of as many as 10,000 head of cattle. A fair share of Mr. McAllister's customers feed 7-8,000 cattle.

Harney County Farm Supply's present feed plant at Burns was built with business growth in mind. The building that now houses milling machinery, feed rooms and farm store is 50 ft. wide and 240 ft. long. The basic material used in construction of the building was pumice blocks, which Mr. McAllister says makes the structure virtually fireproof and provides good insulation.

To take care of ranchers within a 150-mile radius, Mr. McAllister has added equipment including: A grinder, mixer, molasses mixer, pellet mill, hay mill, feed sack sewing machine and an extra truck.

Heavy Feeding Season

When frost locks the hills with an icy grip in October, the cattlemen start feeding. This feed push lasts until March, but usually the last feed is bought about the middle of January.

"During this 3½ months our mill is kept busy," said Mr. McAllister, "then volume slacks off. Usually we mix up a large tonnage of range cubes so we can stay with the demand."

The company has tried various kinds of cubes but finds that most cattlemen prefer a three fourth inch size. Most of this is sacked, because few ranchers have started using feed in bulk form.

"The herds are scattered in the valley," said the mill owner, "and ranchers feed from a pickup or truck, dropping a few sacks at each feeding place. Eventually I think more will go to bulk feeding."

Other cattle feed includes rolled barley which is fed to calves in the spring. Right now Mr. McAllister is promoting creep feeding, whereby calves can be fed while on the range with the cows.

Grain Storage

The company has storage for 1,000 tons of grain in outside bins. There are also seven holding bins plus a building made of 2x8 timbers which is divided into four compartments of 20 tons each. These are for storing cubes and other mixed feed.

In preparation for the busy season, the firm ships in grain from the Midwest, with much of it coming from Kansas. Feed is manufactured by mixing it with a pre-mix supplement bought from a national feed manufacturing company.

"Even though we are really busy with local customers only about four months of the year, we also make all the feed for the Nevada store," said Mr. McAllister. "This adds considerably to our tonnage."

In working with these large ranch customers, the firm must sell on credit. Most ranchers pay regularly, but at times the receivable accounts reach nearly $70,000. However, the losses from back debts seldom amount to more than a few hundred dollars a year.

"You just don't ask one of these fellows to hand you a check when he orders feed," said Mr. McAllister. "Most of these are big accounts. As an example, not long ago I sold two ranchers $10,000 worth of grass seed on one order."

The company has two 8 ton trucks which are used to deliver feed. The trucking fees are figured into the feed and vary according to the distance from Burns. Where deliveries are 100 miles or more, this may be as much as $6-8 ton. Some ranchers come after feed in their trucks. Others may hire a trucking firm to deliver it.

The Harney County Farm Supply also has a large diesel truck for hauling feed to the Nevada store. To reduce expenses, some feed ingredients are shipped there and then brought to the home store on the return haul.

Ranch Supply Business

Though feed is the main business, the company has a large trade in ranch supplies, which include stock tanks, wire, livestock sanitation products, sprayers, salt, electric fences and hardware.

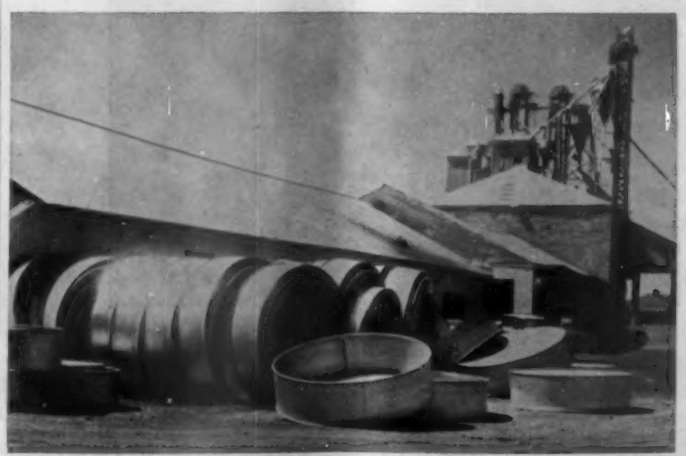
"There isn't much farming in the county," said Mr. McAllister, "but we have solicited this trade with good results. Last year we became a dealer for a liquid fertilizer and sold enough to cover 1,800 acres of cropland. Most of this is barley grown for the large brewing companies, so the company buys much of it and gets part of the hauling."

Mr. McAllister also works closely with the county agricultural agent, and now sells the county all its 2,4-D. In addition, he has found an increasing sale for fertilizer and insecticides among the farmers and townspeople.

In operating such a far-flung business enterprise, Mr. McAllister has tried to reduce high operational costs. The mill is so arranged that three men can run it. The large farm store was planned for self-service buying. And, outside visits and service have been limited. Visiting with ranchers on their ranches might be profitable except for the fact they are so widely scattered. Mr. McAllister has tried to make the store a gathering place for ranchers when they come to town.

"I think we have had reasonable success in keeping down unnecessary expense," he explained. "Last year we were one of the top stores in low operational costs based on the number of employees. For each employee on the payroll we did a gross volume of $100,000."

Working for the extra sales has been accomplished by first making wanted items available, and then by doing some personal selling. Once



SUPPLY SALES AREA—Ranch supplies account for a substantial part of business handled by Harney County Farm Supply, Burns, Ore. Large stock tanks in the foreground are sold to ranchers within a large area surrounding Burns.

TALKING IT OVER — Jack McAllister (right), owner of Harney County Farm Supply, talks with a rancher customer about a retail product in his large farm store and office at Burns, Ore. Despite a fire that required an expenditure of $96,000 to replace destroyed feed manufacturing facilities, Mr. McAllister has gained back all his former business—and almost doubled it.

when a rancher mentioned something about needing fence posts, Mr. McAllister got on the telephone immediately, located the posts and sold the man 5,000 of them.

"It takes a lot of money to operate independently," he said. "I spent $96,000 in rebuilding the place and usually carry an inventory in excess of $50,000 in supplies. But it seems there is no other way to operate. When you're dealing with a man who owns 10,000 head of cattle, you must have everything he needs or be able to get it for him."

Promotion has played its part in increasing new business. The store has promoted the use of fertilizer, has pushed the use of creep feeders and is now investigating the opportunities of raising sheep and possibly feeding lambs in this area. There are only about 20,000 sheep in the county, but Mr. McAllister thinks this number can be profitably increased.

Pennsylvania Group Announces Directors

HARRISBURG, PA. — Directors of the Pennsylvania Millers and Feed Dealers Assn. elected at the group's annual convention recently here have been announced (Feedstuffs, Oct. 1).

New members serving three year terms are J. Leroy Secrist, I. B. Secrist Sons, Millerstown, Pa., and B. H. Wilson, Buck & Doe Run Valley Farms, Coatesville, Pa. Newly-elected and serving two and one-year terms respectively are Mauser Lerch, Mauser Mill Co., Treichlers, Pa., and C. E. Woolever, C. E. Woolever, Catawissa, Pa.

Reelected for three-year terms were Milton F. Godshalk, Flory Milling Co., Bangor, Pa.; Wilbur C. Hiestand, S. H. Hiestand & Co., Salunga, Pa., and Paul M. Grubb, Grubb Supply Co., Elizabethtown, Pa.

Terms of all of these men will begin Jan. 1, 1961, due to a change in bylaws approved at the meeting.

$1½ Million Plant Nearing Completion

PORTLAND, ORE.—The electrical installation of the new $1½ million push-button feed plant under construction at Mock's Bottom is being completed here.

The feed mill, being erected for Western Farmers Assn., is 168 ft. high, about the size of a 12-story building. It is now 75% completed and scheduled to be ready for operation about Dec. 1. Later, a modern poultry processing plant will be added.

The engineering and construction division of W. R. Grasle Co., in addition to installing the plant wiring, is designing and installing a 1,500-KVA transformer substation with underground service to the plant.

The automated mill will have some 50 individual push-button stations and 14 main control panels, each with more than 30 push-buttons, dials and indicator lights. There will be 184 motors with more than 500 total horsepower installed.

All production will be automatic with mixing, processing and packaging, except for inspection, "untouched by human hand and unseen by human eye," installers say.

RESEARCH FARM TOUR—Willard D. Lashbrook, dairy and livestock specialist for The Beacon Milling Co., division of Spencer Kellogg & Sons, Inc., left, discusses with a group of visitors from the New York State Veterinary Medical Assn. the operation of the firm's multiple farrowing unit and specifically the sow colony of that unit. The visit to the Beacon Dairy and Livestock Research Farm at Cayuga, N.Y., Sept. 16 was part of the annual meeting of the organization. The veterinarians and their wives were given a special tour of the entire farm operation and special exhibits were set up in a central tent to show calf, heifer, dry cow and milking cow programs and their benefits. A milk and dairy products "bar" was set up in an adjacent tent to provide refreshments for the guests. In the evening a chicken barbecue and fish fry dinner was served.

POULTRY BY-PRODUCTS HELP YOU PACK MORE ENERGY AND NUTRIENTS INTO YOUR FEED

TO REPLACE THE ENERGY AND NUTRIENTS FOUND IN...

WOULD REQUIRE

110 lbs. SBOM (Dehulled)
6 lbs. Fat
6 lbs. Phosphorus supplement
4 lbs. Limestone
2½ lbs. Vitamin B_{12} sup. (6 mg/lb.)
1 lb. 25% Choline Chloride
750 mg. Niacin
350 mg. Riboflavin
both "fish" and "whey" factors

Efficiency and economy require a combination of ingredients that give you the maximum amount of energy and nutrients with the least sacrifice of precious space in the feed bag. There is no room for ingredients of low nutritive value or for ingredients that provide one needed feature at the expense of another.

WRITE FOR A LIST OF PRODUCERS OF
Poultry By-Product Meal
Hydrolyzed Poultry Feathers
Stabilized Poultry Fat

FREE! Pamphlet telling how you can use poultry by-products to the best advantage in your feeds. Write on your letterhead to

POULTRY BY-PRODUCTS ASSOCIATION, INC.
P. O. Box 166, Lawrenceville, Georgia

Fleischmann's F·I·D·Y
IRRADIATED DRY YEAST
RICH IN VITAMIN D FOR FOUR-FOOTED ANIMALS

THAT GOOD MEDO GREEN® ALFALFA
A COMPLETE LINE of QUALITY PRODUCTS
Pellets • Dairy Chop
Granulated Alfalfa
Chopped Alfalass®
BREMCO ALFALFA MILLS, Inc.
New Bremen, Ohio Phone 3251

Jacobson QUALITY
FEED MILL EQUIPMENT

JACOBSON HAMMERMILLS
AJACS Quick Screen Change
UNIVERSAL Quick Screen Change
AJACS-O-MATIC Remote Screen Change

JACOBSON MACHINE WORKS, INC.
Nearly a Half Century of Service to the Feed Industry
1090 Tenth Avenue S. E. Dept. M Minneapolis 14, Minn.

CHECKERBOARD GRAIN COMPANY
Buyers and Sellers of
MILLFEEDS, GRAINS AND GRAIN PRODUCTS
CHICAGO KANSAS CITY ST. LOUIS MINNEAPOLIS

FEEDSTUFFS
LEADER IN THE FIELD

PILOT BRAND OYSTER SHELL

Gives Feed Dealers Everywhere
A FULL MEASURE OF PROFIT

PILOT BRAND is in demand the year 'round. There are no slack seasons. Best of all, you always make a good profit. Here are important reasons why:

PILOT BRAND is an ideal eggshell material.

PILOT BRAND helps poultry raisers get top production of stronger-shelled eggs.

PILOT BRAND is uniformly pure calcium carbonate, kiln-dried.

PILOT BRAND costs less per usable pound.

Powerful national advertising in leading farm and poultry publications and on 70 radio stations does a good job of pre-selling for you, and assures you repeat business.

Remember, there is no adequate substitute for PILOT BRAND Oyster Shell. It's a sure-fire volume and profit builder.

PILOT BRAND OYSTER SHELL FOR POULTRY
Oyster Shell Products Company
Mobile, Alabama

AT MEXICO MEETING—Dr. J. R. Couch, center, Texas A&M College, College Station, Texas, answers questions after talking to a group of feed men in Mexico City. With him are Dr. John A. Pino, left, director of the Rockefeller Institute in Mexico, who was translator, and Dr. Mario Appendini, general secretary of the National School of Veterinary Medicine.

Dr. J. R. Couch Talks At Mexico Meetings

MEXICO CITY—Dr. J. R. Couch, Texas A&M College, College Station, Texas, talked on two evenings, Sept. 20 and 22, to leaders of the animal feed industry in Mexico City in meetings held at the National University.

The first evening, Dr. Couch spoke on "Vitamins, Antibiotics and Micronutrients Added to Animal Feeds." At the second session, his topic was "Amino Acids in Animal Nutrition."

Interest in his talks was indicated in that on both occasions he answered questions for 1½ hours after speaking for 45 minutes.

Dr. Couch remarked on the growth of the feed industry in Mexico since he had spoken there four years earlier. "With the population growth and increase in the standard of living, the future is very bright," he added.

One of the meetings was sponsored by Comsolmex, a subsidiary company of Commercial Solvents Corp., New York. The second was sponsored by Malta, S.A., a Mexican company.

Amendment to Egg Grading Law Backed

NEW ORLEANS—Representatives of several segments of the Louisiana egg industry recently voted in favor of amending the present state law for mandatory grading and marketing, according to Ralph Germany, state poultry market supervisor.

Mr. Germany said the vote would be used only as an indication of the feelings of those attending the meeting.

A spokesman explained that the public hearing was held in the state office building and attended mostly by those in the production and wholesale segments of the egg industry from the area surrounding New Orleans.

He added that the state is considering amending the present law to make mandatory the grading and marketing of eggs in grades of A, B and C.

Meanwhile, Mr. Germany made known that hearings are being held throughout the state in order to air the various problems involved and gather the feelings of various segments of the industry.

Hog Numbers Down 20% in Canada

OTTAWA, ONTARIO — Hogs on Canadian farms Sept. 1 numbered an estimated 5,637,000, some 20% under last year's total of 7,055,000, declines being posted in both eastern and western Canada. The number on eastern farms fell 17% to 3,150,000 from 3,780,000 a year earlier and on western farms 24% to 2,487,000 from 3,275,000, according to the report.

Farmers' intentions reported June 1 had indicated that farrowings from June 1 to Nov. 30 this year would total 543,900, or 9% less than in 1959. The September survey indicates that these intentions have been changed. With strengthening prices, more sows have been bred, and it is now expected that 614,000 sows may farrow during the six-month period. Th's would be an increase of almost 3% from last year, rather than the decrease of 9% previously forecast. Increases beyond previously reported intentions are common to all provinces, but are greater in the east than in the west.

Hudson Pulp & Paper Names Product Head

NEW YORK — Appointment of Howard Brody as product manager of Hudson Pulp & Paper Corp.'s multiwall division has been announced by Benjamin Danzinger, manager of administration and market planning for the division.

Mr. Brody, formerly assistant to the sales manager of the division, has been associated with Hudson for three years where he has had experience in sales, marketing and technical areas.

"In his new capacity, he will be responsible for keeping abreast of all developments in the multiwall field and for coordinating Hudson's continuing effort to find ways best to meet its customers' packaging needs," the announcement said.

Named by Ceretana

GREAT FALLS, MONT.—Robert Melvin, Fairfield, has joined Montana Flour Mills Co. as a sales representative in the Ceretana Feeds Division. He will directly assist Joe Eisenman, seed division manager, in all functions of the business, according to the announcement.

Mr. Melvin was formerly employed as a field representative by Teslow, Inc.

CANADA AGENCY SELECTED

ST. LOUIS—The Foster Advertising Co., Ltd., of Canada, with headquarters in Toronto, has been appointed advertising agency for Ralston Purina Co. agricultural products in Canada, it has been announced at Purina headquarters by Maury Malin, director of Chow advertising. The appointment will become effective Jan. 1, 1961.

GRACE
Another car of Grace Feed Urea is loaded at the multi-million-dollar Grace plant at Memphis.
DESTINATION: ONE OF THE LARGEST FEED MANUFACTURERS IN THE WORLD.
Grace is the third largest producer of urea in the United States.

Here's why

The Largest Feed Manufacturers in the World

USE GRACE UREA *Micro-Prilled*

Feed Compound

Micro-Prills shown with the magnifying glass are approximately 16 times actual size. The smooth, round balls flow freely, won't cake

Grace urea has proved superior in keeping feed quality up, costs down. As a result, manufacturers who use this high protein supplement in their feeds have a big advantage in a highly competitive market.

Micro-Prilled Grace Urea is a compound made up of tiny round balls. It mixes readily, pours easily, and is non-clogging. *You get an even, uniform mix throughout every time.*

And, of course, you lower your costs considerably by substituting Grace Micro-Prills for high priced protein meals.

That's why the largest feed manufacturers in the world use Grace Feed Urea. Do you? It's readily available now in your area in any quantity. Write for complete details.

W. R. GRACE & CO.

NITROGEN PRODUCTS DIVISION

147 JEFFERSON AVE . MEMPHIS 3. TENN.

MEMPHIS—147 Jefferson Ave. JAckson 7-1551 • CHICAGO—75 E. Wacker, FRanklin 2-6424
NEW YORK—7 Hanover Square, Digby 4-1200 • ST. LOUIS—8230 Forsyth, PArkview 7-1715
CHARLOTTE, N.C.—1402 East Morehead St. • FRanklin 6-3329

Nothing protects you against losses like

HYBRID VIGOR

the Arbor Acres 50 has it!

Arbor Acres

WRITE FOR FACTS ON NEW

ERIEZ

HI-VI

electro-permanent magnetic

HEAVY DUTY

BIN VIBRATORS

(Pat.)

New, *heavy-duty* units for bins up to ¼" wall thickness and 50 cu. ft. capacity • Enclosed drive element is furnished as *standard;* dust and weather resistant for greater efficiency • Exclusive pinpointed vibration impact • No rectifier needed—operates directly off A.C. line • Low operation and maintenance costs • Electro-permanent magnetic drive • Assures steady materials flow from bins; eliminates arching, bridging, sticking.

Special Mill Mutual accepted units for hazardous, dusty locations. Impact or semi-noiseless models.

Eriez Mfg. Co.
118-KB Magnet Drive, Erie, Pa.

Please mail literature on heavy duty bin vibrators to:

NAME_____

COMPANY_____

ADDRESS_____

CITY_____ STATE_____

ERIEZ

ATTEND SALES MEETING—E. C. Lane (seated, right), manager of the A. E. Staley Mfg. Co.'s new feed products department, presided over the department's first general sales meeting recently. Seated with Mr. Lane are, left to right, salesmen E. B. Turner, Bill Howland, Roy Sandberg and Tom Kanakis, Rockland laboratory diets sales manager. Standing are salesmen Bob Fisk, Ron Saunders, Duane Florschuetz, Dutton Bowers, Wally Ryan, Ken Wright, director of feed nutrition, and John Gilbert, sales manager for Sweetone.

Staley Feed Products Unit Holds Meeting

DECATUR, ILL.—The recently-created feed products department of the A. E. Staley Mfg. Co. held its first general sales meeting recently to kick off the fall promotion of Staley's Sweetone dried molasses concentrate and to introduce new product plans to the sales force.

E. C. Lane, manager of feed products, opened the day-long meeting by outlining the department's goals for the October-December quarter of 1960, explaining the organization of the department and its new functions.

Products of the Staley feed products department include Hi-Pro-Con brand 50% protein dehulled soybean oil meal, Staley's 44% soybean oil meal, corn feeds, soybean mill feed, vitamin carriers, Sweetone dried molasses concentrate and Rockland diets for laboratory animals.

Nutrition, Disease Control Topics for Arkansas Meeting

FAYETTEVILLE, ARK.—New developments in poultry nutrition and disease and insect control are among topics to be covered during the fourth annual Poultry Study Day set for Oct. 25 here at the University of Arkansas' Agricultural Experiment Station.

Dr. E. L. Stephenson, poultry nutritionist, will discuss nutrition of laying and breeding hens; D. B. Bragg, research assistant, will report on pellet hardness; B. N. McPherson will discuss the feeding of grit; T. D. Hobbs, research assistant, will tell the effects of feeding rat poison to chickens, and Dr. G. C. Harris, assistant poultryman, will review research in artificial insemination of chickens and turkeys.

Dr. E. H. Peterson, associate poultry pathologist, will cover new developments in coccidiosis control; Dr. J. L. Lancaster, Jr., entomologist, will report on fly control research; L. D. Andrews, assistant poultryman, will tell about the Arkansas random sample poultry testing program; Dr. J. H. Kan, assistant poultryman, will discuss the influence of selection on poultry breeding, and Dr. N. R. Gyles, associate poultryman, will discuss the southern regional poultry breeding project. A tour of the poultry farm will climax the day's events.

Denver Co-op Builds New Automated Mill

DENVER, COLO.—Farmers Union Marketing Assn. here has replaced the feed mill destroyed by fire Dec. 7, 1959, with a highly automated one.

Al Gamble, plant manager, said the decision to turn to automation was the result of competition in the feed business, plus small profit margins and high overhead.

Now one man can stand at a single control board and mix tons of ingredients from 26 bins to exact specifications.

The association is working on plans for a complete automatic sprinkler system for fire protection in the future.

Sales Representative Named by Vineland

VINELAND, N.J. — Appointment of Frank Bonk as sales and service representative for Vineland Poultry Laboratories in the New England area has been announced here by Dr. Tevis M. Goldhaft, general manager.

Frank Bronk

Mr. Bronk has been associated closely with the poultry industry since his boyhood on the farm and, in more recent years, has specialized in the poultry health field. Prior to joining this Vineland staff, he operated his own business in vaccination and poultry service work.

"The addition of Frank Bronk to our staff is another forward step in our program of expanded service to the poultry industry," Dr. Goldhaft commented.

Mr. Bronk will be working under the direct supervision of eastern division manager, Charles R. Furlong.

U.S.I. Appoints Morea Salesman

NEW YORK — Joseph A. Winterbotham has been appointed as a salesman for Morea liquid feed supplement sales, by U.S. Industrial Chemicals Co., division of National Distillers & Chemical Corp.

J. A. Winterbotham

Mr. Winterbotham will headquarter at the Louisville, Ky., USI sales office, 111 South Hubbards Lane, and travel throughout Kentucky, Tennessee, southern Indiana, southern Ohio and part of West Virginia.

He will work with mixer-distributors to develop sales programs for Morea liquid feed—the patented supplement which contains molasses, urea, nitrogen, ethanol (ethyl alcohol), phosphoric acid and essential trace minerals.

Mr. Winterbotham has 12 years of feed sales experience in the Midwest with Swift & Co. and the Quaker Oats Co. He also was a veterinary products sales representative for Merck & Co., Inc. He holds a bachelor of science degree in animal husbandry from Iowa State University.

Japanese Feed Men Examine U.S. Industry

AMARILLO, TEXAS—Members of the U.S. Feed Grains Council are sponsoring a six-week tour of the nation's feed grain production areas now for visiting representatives of the Japanese feed grain industry.

"American grain for Japanese feed bins" is the goal of the tour, reports the Feed Grains Council. The visiting team will see examples of the merits of feed grain in mixed, balanced livestock rations, and the extra pounds that can be expected through proper feeding.

Charles M. Elkinton, U.S. agricultural attache, American embassy in Japan, says that over the next 10 years, it is estimated that total meat production, including chicken, will increase more than 150%. He adds that the Feed Grains group might expect an annual increase of 300,000 tons or more in volume of U.S. shipments to Japan.

PRIZE PRESENTED—Samuel Scamihorn, Pimento, Ind., left, winner of the 1960 Kraft Foods Junior Exhibitor Contest at the Indiana State Fair, receives his award from Selia Wilson, "Miss Indiana State Fair," which entitles him to select a calf of his choice, which will be paid for by Kraft. Lynn Croxton, second from left, Frankfort, Ind., and Wendell Miller, agricultural sales supervisor for Kraft Foods, offer congratulations. Kraft sponsors the contest to encourage junior exhibitors to raise show animals as a part of their animal husbandry training. Lynn Croxton, winner of last year's contest, produced prize winning animals from stock he won in 1959.

Program Shapes Up for APHF 'Quickies'

KANSAS CITY—A balanced program covering labor relations, marketing, poultry health and business management will be the central theme of the compact two-day APHF regional "quickie" conventions in the West, Midwest and East, it was announced here by L. M. Manford, American Poultry & Hatchery Federation president. All the meetings are scheduled in the first 10 days of December.

The western "quickie" is scheduled for the Disneyland Hotel, Anaheim, Cal., Dec. 2-3. The midwestern meeting will be held at the Conrad Hilton Hotel, Chicago, Dec. 7-8. The 1960 "quickies" conclude with the APHF-NEPPCO joint eastern "quickie" at the Benjamin Franklin Hotel, Philadelphia, Dec. 8-9. Reservations may be made by writing directly to the hotels, Mr. Manford said.

This is the 10th year of the "quickies," at least one being held each year in the last ten, except 1953. "The highly successful meetings aim at taking top-level business management topics to the APHF membership throughout the country," according to Mr. Manford.

"The 'quickies' have been gaining popularity each year with 1959 attendance reaching a record number," he said.

A special session on poultry health is slated for the eastern "quickie" with topics including quality control measures for vaccines, dipping eggs as a control for CRD, ventilation as it applies to respiratory diseases and a discussion of the proposed interstate regulations on shipping of hatching eggs, chicks and poults.

Named to CSS Post

KANSAS CITY — Appointment of Theodore H. Anderson as deputy director of programs has been announced by Donald E. Smith, director of the U.S. Department of Agriculture's Kansas City CSS commodity office. As deputy director of programs, Mr. Anderson will be responsible for directing the management and disposition of commodities acquired under Commodity Credit Corp. price support programs in the five state area including Colorado, Kansas, Missouri, Nebraska and Wyoming.

For 10 years Mr. Anderson has been deputy director for management of the Kansas City CSS commodity office. He succeeds Carl M. Heaton, who was appointed director of the Minneapolis CSS commodity office in July.

Co-op Packing House

WINNIPEG — A cooperative charter to open producer-owned packing houses has been applied for by the Ontario Hog Producers' Assn.

Charles McInnis, president of the association, made the announcement at the annual meeting of the group in Toronto. He said that the hog producers hope to have a packing house in operation within two years and that eventually there would be several others functioning across Ontario.

Make Your Customers
GOOD Customers... all year 'round

SUPREME Brand
Condensed BUTTERMILK

HERBERT K. CLOFINE, Inc.
MILK PRODUCTS
315 South Smedley St. Phila. 3, Pa.

Use of Blood Meal For Poults Feasible

FARGO, N.D.—"The use of blood meal as a source of protein in turkey poult starting diets and poultry diets in general is feasible with a reasonable degree of success if the blood meal is of good quality," according to a study completed at North Dakota Agricultural College here.

College staff members working on the turkey feeding project were: W. C. Lockhart, assistant poultry husbandman; Dr. Reece L. Bryant, poultry husbandman, and D. W. Bolin, associate animal nutritionist.

"This is shown by the response of the diets containing freeze-dried blood. The use of vat-dried blood as a source of protein in poultry diets is to be discouraged since it is difficult to know to what extent the original protein quality was destroyed in the drying process."

The study report continued, "In various areas of the U.S. blood meal is being dried by a spray method. Work conducted in California by Kratzer and Green showed that spray-dried blood meal was much superior to vat-dried blood and most likely approaches the quality of freeze-dried blood. On this experimental evidence, spray-dried blood meal is to be preferred if dried blood meal is to be included in the diet."

NEW RULES FOR EXCHANGE

STOCKTON, CAL.—The directors of the Stockton Grain Exchange have adopted a new set of regulations in order to speed up daily pricing sessions. The sessions now begin with the ringing of a bell at 11:45 a.m. and end promptly upon the ringing of another bell at 12:15 p.m. The manager appoints a sergeant at arms at each session to maintain order. The sergeant at arms is empowered to fine members who do not conduct themselves in an orderly fashion during the pricing session, according to reports.

Pay Way Feed Names West Regional Head

KANSAS CITY—Gerald Corley has been promoted from district manager to western regional manager of Pay Way Feed Mills, according to Dean Warnstaff, sales manager of the Kansas City feed firm.

Gerald Corley

Mr. Corley joined Pay Way in 1957 as a district manager.

In his new capacity, Mr. Corley will supervise all sales activity in the company's western region of Oklahoma and Kansas.

GRAND OPENING HELD

GREELEY, IOWA—A grand opening has been held for the Greeley Mill & Elevator.

DON'T KID YOURSELF
about the cost of building a new mill . . .

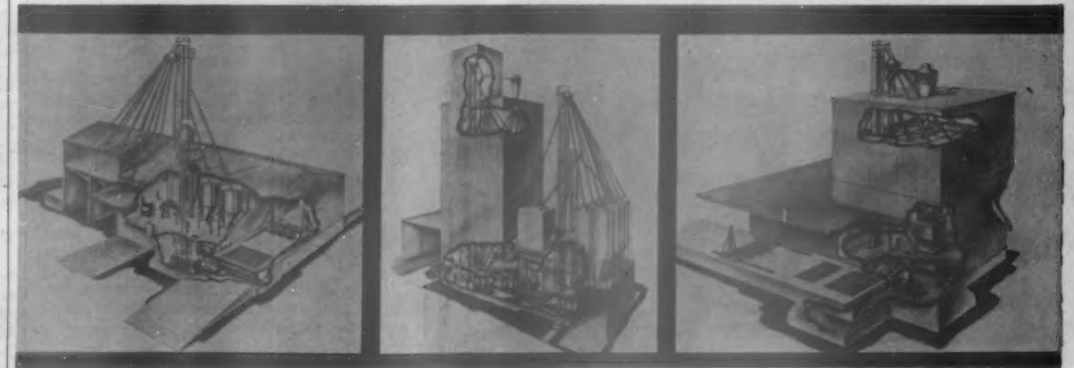
There's more than meets the eye in any mill construction project. Most people tend to think only in terms of the major pieces of equipment and the structure which houses them. That's why they rely on reputable engineers and contractors to plan each detail for them and furnish comprehensive cost quotations.

Unfortunately, some mill owners have found to their regret that the low bids they accepted from some contractors were low only because they were incomplete. The addition of such vital things as complete wiring and ductwork, motor starters, air cylinders, and countless other "minor" items sky-rocketed their costs after it was too late to do anything about them.

You wouldn't think of buying a new car without a starter, spark plugs, generator, or other similar equipment. But people actually do buy mills under much the same conditions, only to find out that they must come up with extra money before the mill will even run.

You can avoid this danger completely by asking us to bid on your next mill construction, expansion, or modernization project. All Myers-Sherman feed plants are engineered complete to every last detail . . . and *quoted* that way, too!

Best of all, this simple protection costs you nothing. We'll be glad to discuss your project with you, survey your requirements, and furnish recommendations without any obligation. Send for our free booklet that tells you all about our complete services today.



Myers-Sherman engineering experts create new and better mills of every type and size . . . from small custom mixing to full-scale manufacturing operations. We handle the entire job from start to finish . . . engineering, financing, and construction, or any part of it you wish. Choose one of 54 convenient purchase plans or even lease the entire installation!

Best of all, the quality and workmanship of every piece of Myers-Sherman equipment you operate is fully guaranteed and backed by the Myers-Sherman reputation for sound engineering design, quality workmanship and construction. When you call on Myers-Sherman you can count on getting the best mill for the money.

MS

MYERS-SHERMAN CO.
STREATOR, ILLINOIS
Phone: Streator 2-2176 Established 1911

MAIL THIS COUPON FOR COMPLETE INFORMATION

MYERS-SHERMAN COMPANY
2501 S. Illinois St., Streator, Illinois

Please send me your free booklet on complete mill planning and construction services.

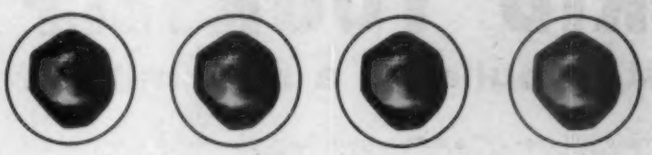
NAME_____
FIRM_____
ADDRESS_____
CITY_____ STATE_____

Micro-Pen®

Procaine Penicillin G in smaller crystals...specially coated to maintain stability under extreme conditions

More and more feed manufacturers are finding that Micro-Pen offers an excellent solution for the problems of dispersion and stability.

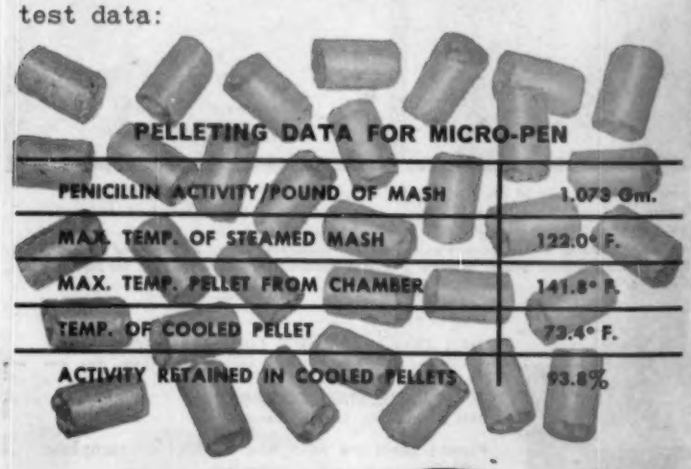
Micro-Pen crystals are about one-fourth the size of ordinary feed-grade penicillin crystals, and thus, they disperse more uniformly throughout the ration.



The potency of each minute crystal is given a longer life by a unique manufacturing method that fully coats each and every crystal... protecting it from the effects of heat, moisture, and pressure.

Actual pelleting test confirms excellent stability of Micro-Pen:

A 500-lb. batch of basal broiler ration with Micro-Pen was pelleted. Feed samples were collected in triplicate for penicillin assays. Temperatures were recorded at the following times: 1) before pelleting, 2) immediately after the hot pellets were taken from the pelleting chamber, and 3) at the time the cooled pellets were bagged. Here is the actual test data:



PELLETING DATA FOR MICRO-PEN

PENICILLIN ACTIVITY/POUND OF MASH	1.073 Gm.
MAX. TEMP. OF STEAMED MASH	122.0° F.
MAX. TEMP. PELLET FROM CHAMBER	141.8° F.
TEMP. OF COOLED PELLET	73.4° F.
ACTIVITY RETAINED IN COOLED PELLETS	93.8%

For more research data, write...

ELANCO

ELANCO PRODUCTS COMPANY • A DIVISION OF ELI LILLY AND COMPANY • INDIANAPOLIS 6, INDIANA

FEED CONTROL COMMENT

By BRUCE POUNDSTONE
Secretary, Association of American Feed Control Officials
Kentucky Agricultural Experiment Station, Lexington

Feed Manufacturing to Be More Closely Inspected

There has been no special announcement about this that I have seen, but manufacturers of feed can expect more and more plant inspections. The growing need for assurance that all possible precautions are being taken in the introduction of drugs into feed is the basis for this.

We need only recall the serious effects of a mistake in mixing urea in dairy feeds or the disastrous consequences of using nicarbazin in a laying mash to realize the potential of these products. From these experiences and others we know accidents can and do happen. As the potency of these ingredients has increased and the problem of their being carried over into human food has grown, the necessity of constant surveillance becomes apparent. Eternal vigilance is the price we must pay for the use of drugs, antibiotics, pesticides, etc., in feeds.

The feed industry, across the board, is doing an excellent job of control. However, as the number and complexity of these ingredients continue to multiply we can expect a tightening instead of a relaxation on regulations and controls involving their use.

There are two points at which a tightening is foreseen in this area. The first is that labeling will be under even closer scrutiny than in the past. There may have been a tendency, for example, to permit cautionary statements to appear elsewhere than on the primary label. "See feeding directions" or "Feed only in accord with directions" may have appeared sufficient in some instances. It is anticipated that these directions will become an integral part of the label if they are not already there. This is but one example.

Inspections

The other point has to do with inspection of facilities for product production. Inspectors will visit plants more frequently to see to what extent drugs are carefully segregated from other ingredients and labeled in such a way that they cannot be used mistakenly, that careful mixing is not only possible but is being done, that inventory records are complete, etc. A feed manufacturer is now in much the same position as a manufacturer of drugs for human use in this regard.

The precautions taken in a plant to clean mixing equipment if used for more than one type of feed, disposal of dust from mixers where medicated feeds are being mixed, proper use of premixes to avoid contamination of nonmedicated feeds, checking equipment to be sure that it is properly installed to avoid any possible over-mixing or under-mixing of the formula, and bulk handling equipment to avoid contamination from previous batches, are items to be checked.

At first thought this may seem a bit unreasonable but when the potency of some of our "wonder drugs" is realized and how serious their mishandling can become, then everyone appreciates the necessity for extreme care and the need for assuring responsible authorities that all of the necessary precautions are being taken. State and federal officials will view applications for registration as conditionally effective pending inspection of facilities for producing a product. After an application has been accepted it may be cancelled if a later inspection shows conditions that would seem to indicate inability to properly meet some of the specifications.

Check List

The following items have been published previously (Feedstuffs, Sept. 17, p. 74), as an inspector's check list for reviewing a plant operation. It may also be applied by a manufacturer for reviewing his procedures to avoid any possible "slip ups." They are reported here because of their significance and timeliness.

(a) Check batch formulas for drug component, amount, etc., and for any new or unusual feed ingredient.

(b) Check storage of supplier's premix and if an additional premix is made by the firm, check storage of this additional premix, to ascertain that methods of storage will not result in an overage or shortage, or result in contamination of non-medicated feed.

(c) Check equipment against that specified in the new-drug applications or Antibiotic Form 10's.

(d) Check equipment for evidence of proper electical grounding to prevent electrostatic interference with mixing.

(e) Report whether same equipment is used to mix different medicated feeds and/or medicated and non-medicated feeds.

(f) Determine the adequacy of cleaning of mixing equipment; and if feed material is used as the "cleaner," what is its disposition.

(g) Observe methods, if any, used to control dust containing drug components from entering other plant operations.

(h) Determine what happens to the dust collected in dust collectors during medicated and non-medicated feed manufacturing.

(i) What precautions are taken to insure that drug components are actually mixed into each batch of medicated feed?

(j) Routinely check: The method of sampling and frequency, laboratory facilities if firm has one, and assay results.

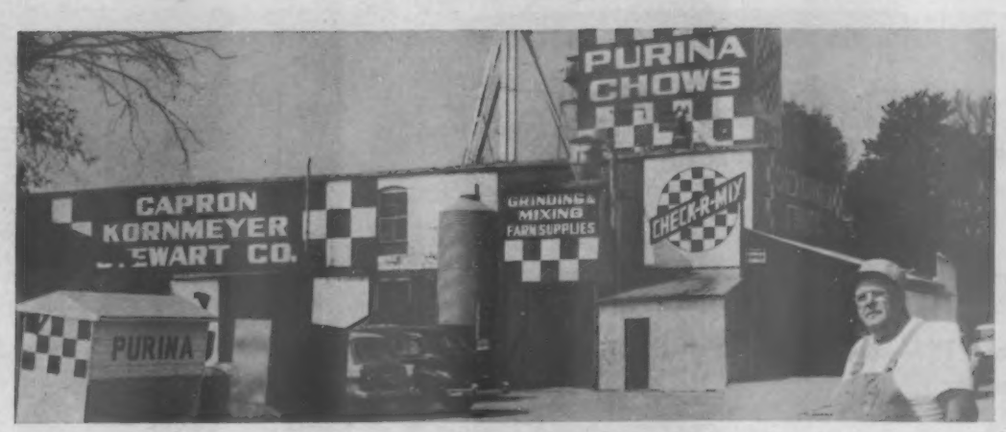
(k) Check labeling, including that for bulk shipments.

(l) If feed manufacturer sells in bulk, using either own trucks or contracted trucks, ascertain precautions taken to prevent contamination of other feeds hauled in the same trucks.

(m) Special attention should be given to manufacturers producing feeds for laboratory animals because of possible contamination of such feeds with drugs which may vitiate results of animal testing, using animals consuming such contaminated feeds.

Marion MIXERS
ELIMINATE GUESSWORK IN MOLASSES MIXING!

Complete accuracy in Molasses mixing bag after bag! One mixer For All Your Mixing Needs. Mixes Dry and Molasses Feed.
SEND FOR FREE LITERATURE:
RAPIDS MACHINERY CO.
887 11th Street Marion, Iowa



Capron-Kornmeyer-Stewart plant at Farmington.

Mr. Capron

Mr. Kornmeyer

Capron-Kornmeyer-Stewart plant at Cramer.

Mr. Stewart

"We serve the farm community in every way that we can"

—says Lloyd Capron, Partner, Capron-Kornmeyer-Stewart Company, Farmington and Cramer, Illinois

From the ashes of two disastrous fires has risen one of the finest Purina Service Centers in America.

Early in 1947, Capron-Kornmeyer-Stewart Company was handling five kinds of feed at Cramer. After a fire destroyed their building, the partners bought a Purina Dealership in Farmington. Another fire leveled the plant.

Today, Capron-Kornmeyer-Stewart Company operates two plants, both with new and modern equipment and both with fireproof buildings, designed to provide all the modern feed services for animal agriculture.

The grain bank, a model for the industry, saves time and money for farmers of the area. Check-R-Mix service provides result-getting feeds. Bulk delivery reduces farm labor, increases efficiency, cuts farm production costs.

Capron-Kornmeyer-Stewart services help farmers produce more milk, meat and eggs with less work and lower production costs. Farmers' appreciation of these services helps Dealership grow.

* * * *

The "sales partner" relationship of Purina Salesman Max C. Barnett and Capron-Kornmeyer-Stewart Company is a factor in the success of the Dealership . . . and it is a benefit to the farm community. Salesman Barnett helps with business management, employee training, meetings with farmers and on-the-farm sales and service. He is typical of Purina "sales partners" who work with Dealers throughout America.

Robert L. Farmer, partner and outside salesman, discusses "Pig Parlor" operation with Mrs. William Kilpatrick. Capron-Kornmeyer-Stewart introduced "Pig Parlors" and farrowing units to the area.

"Push-button" equipment in the Check-R-Mix department is typical of the Service Center's efficiency. Here, Partner Charles Stewart (left) and General Foreman Herman Ihnes (right) watch Harold Welker start the machinery.

A bulk truck can be loaded in three minutes at Capron-Kornmeyer-Stewart Company. Jim Grubb has just loaded one of the firm's three trucks, which save time and money for farmers of the area.

PURINA...YOUR PARTNER IN SERVING ANIMAL AGRICULTURE

WORTH LOOKING INTO

NEW PRODUCTS • NEW SERVICE • NEW LITERATURE

DESCRIPTIONS OF NEW AND IMPROVED PRODUCTS AND SERVICES PROVIDED BY MANUFACTURERS AND SUPPLIERS ARE PRESENTED IN BRIEF FORM. FOR ADDITIONAL INFORMATION, PLEASE USE THE ACCOMPANYING COUPON.

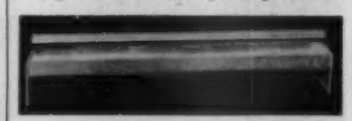
No. 7150—Collapsible Container

A collapsible plastic container, called the "Flexi-Drum," has been announced by Highway Trailer Industries, Inc. The company says the containers will make it possible to carry grains in one direction, for example, and liquid chemicals in the same container on the return trip, without danger of contamination.

Available in three sizes—35 cu. ft., 70 cu. ft. and 105 cu. ft., the product is 47 in. in diameter and collapses to 12 in. high. Tare weight ranges from 106 lb. to 120 lb. Height ranges from 40 in. to 98 in. A feature, the company says, is a plastic, disposable liner used inside a heavy-duty plastic body which can be handled by a conventional fork lift truck or crane equipment. For details, check No. 7150 on the coupon and mail.

No. 7156—Broiler Feeder

A 5-ft. "wishbone" broiler feeder has been placed on the market by James Mfg. Co. Galvanized steel ends serve as adjustable legs that hold the feeder at heights (floor to rim) of 4, 6 or 8 ft. Adjustment holes permit the galvanized steel "perch-proof" Z-



reel to be placed in one of three positions. The feeder can be hung by its ends if preferred. The removable ends make the feeder easy to clean and wash. When not in use, the dismantled feeders require little storage space. For details, check No. 7156 and mail coupon.

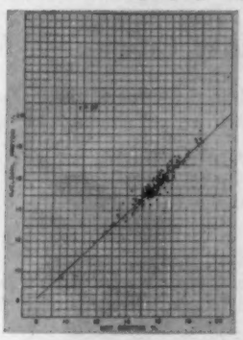
No. 7153—Explosion Protection System

Fenwal, Inc., has introduced a new system which, it is claimed, detects an explosion at the instant of its inception, and acts within a few thousandths of a second to snuff out the blast before it can become destructive. The system is said to be capable of dealing effectively with most of the ordinary explosion hazards known to exist throughout industry. Its operation is based upon the fact that although a blast appears instantaneous to the naked eye, there is a finite lapse in time between its ignition and the build-up of destructive pressures. The system acts within this period.

Standard components of the Fenwal system are shown in the accompanying photograph (left to right): Top—pressure sensitive explosion detector, power unit with standby batteries and high-speed isolation valve; bottom—hemispherical suppressor and explosively actuated vent. Not shown are surveillance or radiation detector and high-rate discharge bottle. For details, check item No. 7153 on coupon and mail.

No. 7152—Protein Analysis Report

Results of a study conducted and reported by North Dakota Agricultural College indicate that the precision of the new Udy Protein Analyzer is comparable to values reported in literature for the accepted Kjeldahl method, according to Udy Analyzer Co. The company cites a report from O. J. Banasik, acting chairman of North Dakota's department of cereal technology, which says a comparison of the Udy analyzer with the Kjeldahl method shows the correlation to be 0.970 (1.0 is considered perfect). The accompanying diagram



shows the close relationship between protein contents of wheat samples as determined by both Udy and the Kjeldahl methods. The report notes that protein percentage can be obtained with the Udy analyzer in about five minutes, whereas the Kjeldahl procedure requires nearly two hours. A copy of a more complete report on the method comparison study may be obtained by writing O. J. Banasik, Department of Cereal Technology, North Dakota Agricultural College, Fargo, N.D. And for more information on the Udy Protein Analyzer, check No. 7152 on the coupon and mail.

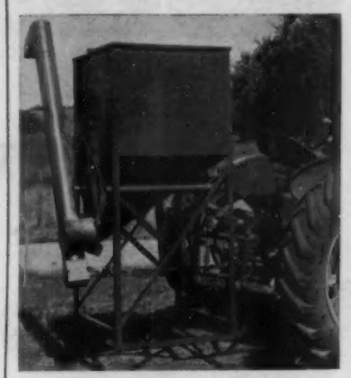
No. 7141—Hanging Poultry Feeder

A 20 lb., deep pan hanging feeder for broilers and laying flocks has been introduced by the James Manufacturing Co. The galvanized steel feeder has both top and bottom rims rolled for strength, as well as the rim of the deep pan, the company says. It

can be assembled in seconds, the company says, and has a strong spring steel bail for hanging. It holds 20 lb. of feed and the 13 in. high barrel is tapered for steady feed flow. It is 10 in. in diameter at the top which makes filling easy, the company says. For more information, check No. 7141 on the coupon and mail.

No. 7151—Portable Feed Bin

Blosser Manufacturing Co. has announced that it is now manufacturing a new type portable feed bin with a three-point tractor hitch. The auger for unloading the bin, operated by the tractor's power takeoff, may be detached from each bin, which makes it possible for one auger and one



three-point hitch to serve as many bins as needed. The manufacturer notes that for smaller feeding operations, bins may be used without the auger. Constructed of heavy steel, bins have a capacity of 1,000 lb. each, are 6 ft. 6 in. high and are weather proofed. Hitch, auger and bin are offered as a unit or each may be purchased separately. Check No. 7151 on coupon for more information.

No. 7154—Feed Ingredient Analysis Table

Availability of a completely revised feed ingredient analysis table has been announced by Stabilized Vitamins, Inc. Designed as a wall chart, the table gives detailed analysis for more than 70 feed ingredients. In addition to chemical analysis, the chart contains latest figures on metabolizable energy (as presented in Cornell University formula sheets), TDN and productive energy. Copies of the chart may be obtained by checking No. 7154 and mailing coupon.

No. 7155—Cob Conveyor

A series of hinge-linked plates form a continually moving belt on the new cob conveyor announced by Shelby Manufacturing Co. Belts are available in lengths from 14 to 22 ft. and widths to fit 3 to 8-ft. bin floors. Additional lengths and widths may be

Send me information on the items marked:

- ☐ No. 7141—Hanging Poultry Feeder
- ☐ No. 7150—Collapsible Container
- ☐ No. 7151—Portable Feed Bin
- ☐ No. 7152—Protein Analysis Report
- ☐ No. 7153—Explosion Protection System
- ☐ No. 7154—Feed Ingredient Analysis Table
- ☐ No. 7155—Cob Conveyor
- ☐ No. 7156—Broiler Feeder

Others (list numbers) .....

NAME .....

COMPANY .....

ADDRESS .....

——SLIP OUT—FOLD OVER ON THIS LINE—FASTEN (STAPLE, TAPE, GLUE)—MAIL——

FIRST CLASS PERMIT No. 2
(Sec. 34.9, P. L. & R.)
MINNEAPOLIS, MINN.

BUSINESS REPLY ENVELOPE
No postage stamp necessary if mailed in the United States

POSTAGE WILL BE PAID BY—

Feedstuffs

P. O. Box 67

Reader Service Dept. Minneapolis 40, Minn.

obtained upon request. Motor driven, the steel belt travels on rollers turned by large sprockets on both sides. The two-side supports, the manufacturer says, eliminate sagging or binding action. A stationary center support is also incorporated to increase the strength and weight-capacity of the conveyor. For further information, check No. 7155 on coupon and mail.

Also Available

The following new products have been described in previous issues of Feedstuffs and information about them may still be obtained by jotting the appropriate number of the coupon and forwarding it to Feedstuffs.

No. 7110—Fan cooled motor, Brook Motor Corp.

No. 7111—Calf milk replacer, Borden Special Products Co.

No. 7112 — New crossbred pullet, Arbor Acres Farm, Inc.

No. 7113 — Research laboratory, Flo-Tronics, Inc.

No. 7114 — Grubicide Supplement, Moorman Manufacturing Co.

No. 7115—Pig starter display, Pay Way Feed Mills, Inc.

No. 7116—Storage bin leveler, Lennox Industries, Inc.

No. 7117—Farrowing stalls kit, W. D. Hines Co.

No. 7118—Lysine supplement, Merck & Co., Inc.

No. 7119—Booklet on Piperazine, Jefferson Chemical Co., Inc.

No. 7120—Poultry feed flavor, Flavor Corporation of America.

No. 7121—Level control bulletin, Flo-Tronics, Inc.

No. 7122—Molasses unit bulletin, Sprout, Waldron & Co., Inc.

No. 7123—Swine mixing salt, Morton Salt Co.

No. 7124—Mobile management bulletin, Seco, Inc.

No. 7125—Feed pellet binder, Cargill, Inc.

No. 7126—Feed flavor booklet, Flavor Corporation of America.

No. 7127—Bulk truck data, Sprout, Waldron & Co., Inc.

No. 7128—Enzyme approval, Merck & Co., Inc.

No. 7129—Adjustable elbow, Huss & Schlieper.

No. 7130—Conveying bulletin, The Day Co.

No. 7131—Equipment bulletin, Fuller Co.

No. 7132—Pallet booklet, Raymond Corp.

No. 7133—Broiler disease program, Chas. Pfizer & Co., Inc.

No. 7134 — Displacement blower bulletin, Sutorbilt Corp.

No. 7135—Pig anemia preventive, E. R. Squibb & Sons.

No. 7136 — Bulk truck bulletin, Sprout, Waldron & Co., Inc.

No. 7137—1961 "Feedmaker" model, J. B. Sedberry, Inc.

No. 7138—Calf milk replacer, National Vitamin Products Co.

No. 7139 — All-steel bin, Leach Manufacturing Co.

No. 7140—Automatic poultry feeders, Chore-Time Equipment Co.

No. 7142—Reference manual, Universal Hoist Co.

No. 7143 — Drying, conditioning unit, Habco Manufacturing Co.

No. 7144—Bulk feed stations, Seco, Inc.

No. 7145—Moisture register, Moisture Register Co.

No. 7146 — Feeder bulletin, B-I-F Industries.

No. 7147—Vitamin K report, Heterochemical Corp.

No. 7148—Improved milk replacer, Borden Special Products Co.

No. 7149—Bulk feed body, Henderson Manufacturing Co.

DIES IN ACCIDENT

CHICAGO—John Hunter, 22, only son of Dr. and Mrs. J. E. Hunter, vice president and director of research of Allied Mills, Inc., was accidentally shot and killed at Carbondale, Ill., where he was enrolled at Southern Illinois University. The accident occurred Sept. 14.

Says Rally Funds Not For Feed Man's Debt

ELKADER, IOWA — A district court judge has ruled here that funds raised at a bean feed rally for a Congressman are not subject to withdrawal for payment of debts incurred when he was a dealer for Ralston Purina Co.

Judge W. H. Antes said that even though Purina holds promissory notes totaling $16,168.39 signed by Rep. Leonard G. Wolf (D., Iowa), Purina is not entitled to any part of $2,931.70 raised at a rally for the Congressman. The notes were signed by Mr. Wolf when he was an Elkader feed man and before he entered Congress in January, 1959. Purina was awarded a default judgment after suing Mr. Wolf.

Rally receipts, held in an Anamosa, Iowa, bank were raised July 31 at Monticello, Iowa, when Sen. Lyndon Johnson, vice presidential nominee, was the principal speaker.

In his ruling, Judge Antes said, "When the nature of the deposit is not shown, the law presumes it to be a general rather than a specified deposit."

Branch in Memphis

MEMPHIS—As a part of an expansion in their grain commission and securities brokerage business, the Lowell Hoit organization has opened a branch office of the Lowell Hoit Securities Co. at 3181 Poplar Ave. under the management of Henry K. Hoyt, of Memphis.

Mr. Hoyt and George Seeds conduct a partnership under the name of the Commodity Brokerage Co.

Recently Mr. Hoyt joined the Chicago Board of Trade and in addition to managing the Memphis office of the Lowell Hoit Securities Co., he will continue his connection with the Commodity Brokerage Co.

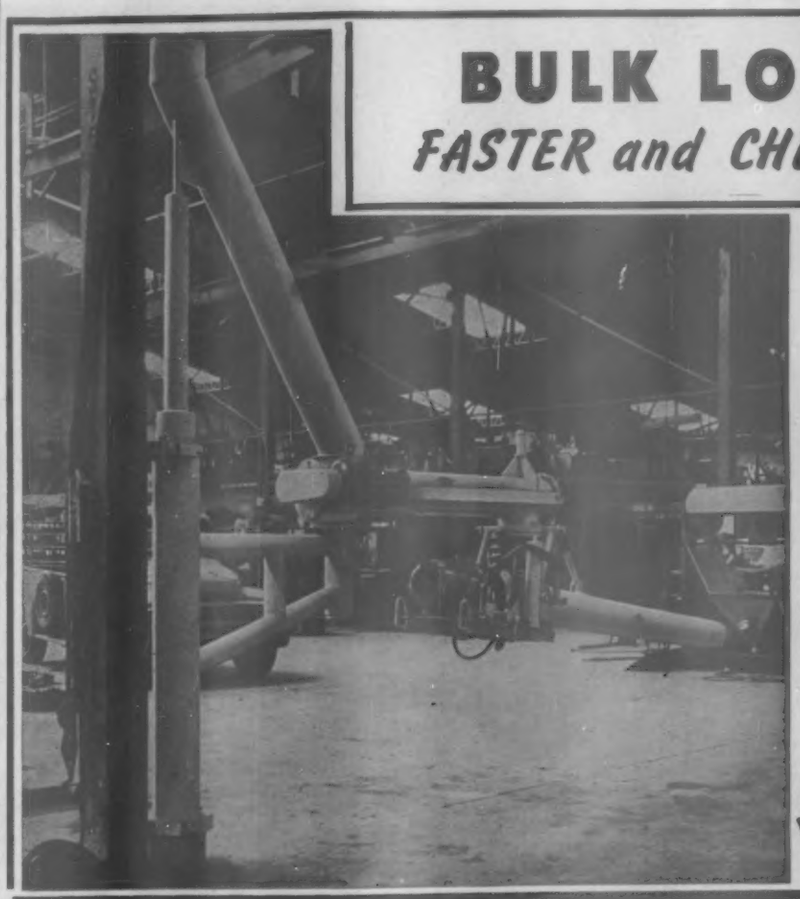
Mr. Seeds will be the Memphis correspondent for the parent Lowell Hoit & Co., a pioneer grain commission firm founded in 1897, with its main office in Chicago.

Use Your Own Salt and Calcium with Herman Nagel's Formula B ...to Supply Every Needed Mineral

in a form so soluble "it melts on your tongue."

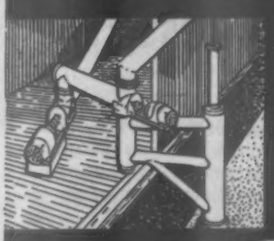
The HERMAN NAGEL Co.
53 W. Jackson Blvd.
Chicago 4, Illinois

BULK LOAD FASTER and CHEAPER



At Your Service
We fly our own planes

FORSTER DUSTLESS BULK CAR LOADER



Save time! Save money! Now, one man can easily do the work of many . . . with the FORSTER BULK CAR LOADER! Air and dust are practically eliminated . . . the material is loaded by a force-feed, sealed-in, screw conveyor. Your operator uses the weight box to govern the compactness of the stock loaded. The FORSTER BULK CAR LOADER is built for heavy duty and long service. It's gear motored and highly refined . . . custom designed to meet the needs of flow! Save time and money! Let FORSTER engineers help you solve your loading problems. Write for complete information.

MANUFACTURING FORSTER COMPANY

FORSTER MANUFACTURING CO., ADA, OKLA
Gentlemen:
Please send complete information on your Dustless Bulk Car Loader.
Name.....
Company Name.....
Address.....
City.....State.....

BUILT AT ADA, OKLAHOMA TEL. FEderal 2-6020 ADA

USDA Expects Hog Slaughter Below 1959, Higher Prices

WASHINGTON—Hog slaughter is increasing seasonally but will continue below a year earlier this fall and winter and prices will be higher, according to the U.S. Department of Agriculture.

The department also notes that the decline in hog production which started last fall is continuing to slow down and should end by mid-1961. This year's spring pig crop was 16% smaller than 1959. Producers in 10 Corn Belt states reported in September that they had reduced early fall farrowings 7% but planned to increase late fall litters 3%. They also reported intentions to farrow 4% more sows in December-February than last winter. If the entire 1961 spring crop should show an increase, as now seems likely, the downswing in production would be the shortest on record.

Hog prices will probably continue above a year before through the first half of 1961, according to USDA. Prices in the fall of 1961 will probably be below this fall if the total spring pig crop is up from this year.

Slaughter Rate Up

Hog slaughter rates picked up in August and prices declined contraseasonally. Part of this price decline was regained early in September. Hog prices are expected to decline seasonally this fall but will continue well above prices last fall. The trend toward earlier farrowing was interrupted this year and market supplies of 1960 spring pigs will likely reach a peak late in the year.

The hog-corn price ratio during the next few months when farmers are planning for spring farrowings will probably be in the 15-15.5 range. USDA states that the ratio has had less effect on hog production in recent years than in earlier periods; but a September-December ratio of 12.8 or better has always been followed by an increase in the number of sows farrowing the following spring.

USDA reports that as more and more producers change from their previous practices of having sows farrow according to a distinct spring-fall pattern, analyses based on the traditional two seasons have less validity. Data on farrowings by quarters are becoming increasingly helpful as they provide a basis four times a year for planning hog production.

Spring Pig Crop

If the spring pig crop should expand moderately, pork supplies would not be excessive. A 4% increase, for example, would mean supplies per person next September-February only a little larger than probable supplies this fall and winter but still below September 1958-February 1959 when pork production was cyclically low. An increase of 7% would be necessary to reach the 1958 spring crop.

DANGER IN FEEDING WASTES CITED

OLYMPIA, WASH.—The dairyman who expects his feed supplier to provide pesticide-free feed and then supplements it with cannery wastes and other unconventional by-products is defeating himself, according to Allen Baker, Washington state control official.

Mr. Baker commented that the dairyman who substitutes various unconventional by-products for commercial feeds "signs a blank check that may bounce if he is not absolutely positive of the way the crops were grown and processed."

"A study of wastes and by-products began in Washington state some time ago," Mr. Baker noted. "Apple pomace was the first by-product to be discriminated against because of pesticide residues. Continuous study since that time implicates by-products as residue conveyors generally, but not entirely. Some lots of specific substances are guilty; others are not.

"In any event, the dairyman who expects his feed supplier to provide pesticide-free feed and then supplements it with wastes and by-products defeats himself. Such self-deception can hardly be blamed on the feed milling trade, pesticide-free affidavit or not."

Even with such a gain, pork supplies per person would be smaller than those following the 1958 crop, because of the increasing population. But demand for pork has not increased much. Lack of substantial increase in demand would probably offset much of the advantage of the gain in number of consumers. Hence, a modest increase in hog production would likely lead to somewhat lower prices but not a price collapse, USDA said.

Vantress Buys Farm, Plans Breeding Farm

SPRINGDALE, ARK. — Charles Vantress Farms, Inc., Duluth, Ga., has announced purchase of a 265-acre farm near here to be used as a breeding farm.

Mr. Vantress said he plans an immediate construction program to provide modern facilities for the farm. He said the Springdale unit will be known as Vantress Farms of Arkansas, Inc.

He said, however, that the firm's basic research and pedigree breeding will continue to be carried out at Duluth.

Charles F. Hailey, Monett, Mo., has been named residential manager of the farm. He will manage the farm in addition to carrying out other duties as midwestern sales and service representative for Vantress.

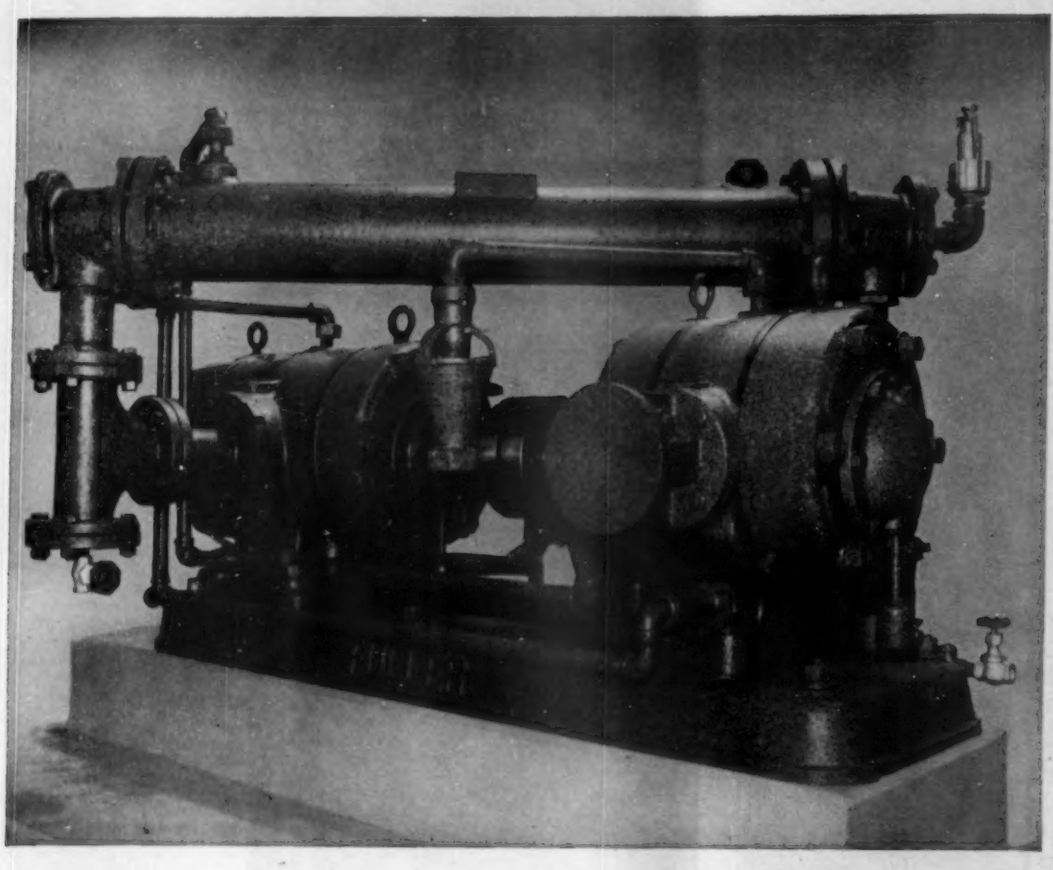
Mr. Hailey said the Arkansas farm "will enable the firm to locate foundation breeding stock closer to its customers, providing better company service."

Vantress has operated an incubation plant here for the past two years.

Workers' Pay Rises

SAN FRANCISCO — Production workers in the California grain mill industry were earning more in August, 1960, than in the previous month or the same month last year, according to the Division of Labor Statistics and Research of the state Department of Industrial Relations. Average hourly earnings and the average work week continued to increase.

Grain mill production workers were earning $115.63 per week in August, compared to $113.09 in July and $103.09 in August, 1959. The average hourly pay rose 1¢ in the month to $2.64, compared to $2.46 a year ago. The work week was 43.8 hours, compared to 43 hours in July, and 42 in August, 1959.



Fuller Compressors With Overhead Intercoolers Offer A New Dimension In Compactness

Fuller Rotary Two-Stage Compressors equipped with Overhead Intercoolers fill the bill where space may be a problem. These compressors produce from 30 to 3300 cfm, pressures to 125 lb. gage and can be readily installed.

These compact Rotary Compressors are vibration-free, thereby eliminating the need for involved and expensive foundations or structural modifications.

The Fuller rotary principle permits complete freedom of reciprocating parts—valves, crankshafts, pistons—cutting the need for frequent servicing and parts replacement. Minor maintenance is all the care indicated for years of serviceability.

For full details on the maintenance-free economy and high performance of Fuller rotaries, write today for comprehensive, illustrated Bulletin C-5A. 2628 C329

FULLER COMPANY
178 Bridge St., Catasauqua, Pa.
Subsidiary of General American Transportation Corporation
Offices in Principal Cities Throughout the World

Fuller
....pioneers in harnessing AIR

3,650,000 BUSHELS OF REASONS SOLULAC IS ALWAYS YOUR MOST ECONOMICAL SOURCE OF UNIDENTIFIED GROWTH FACTORS

. . . a

Fermentation Product from Corn

This *makes* SOLULAC *the* richest source of unidentified growth factors. This *means* you get more feed value for your feed ingredient dollar. And today, more than ever, you can't skimp on growth factors in your feed and still maintain quality. Distillers Feed Research Council has on file many years' records of research tests, conducted at leading universities and colleges. These tests prove that unidentified growth factors are *fundamental* to good feedlot performance.* Because feed sales are made on a history of good feedlot performance, it will pay you to keep SOLULAC in your feed formulas. It's your most economical source of unidentified growth factors . . . guaranteed *free flowing* in 50 and 100 lb. bags or bulk carloads . . . available 52 weeks a year.

Additional Information on Request from

GRAIN PROCESSING CORPORATION
MUSCATINE, IOWA • Telephone AMherst 3-1321 [illegible]495

Primary Fermentation Products

Member of the DISTILLERS FEED RESEARCH COUNCIL

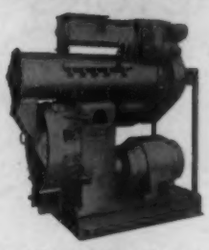
Riboflavin — Vitamin B-12 — Bacitracin — GP-101, source of whey and other unidentified growth factors

Copyright 1960

✔ Check the CPM "CENTURY"

M. P. MIXER-PELLETER

... the California feature that eliminates the need for separate molasses mixer. All CPM models can be ordered equipped with this molasses mixer at moderate extra cost.



This is just one of California's complete line of pellet mills. Other models with capacities from 1 to 15 tons per hour. Write for complete information, or ask for your CPM representative to call.

CPM CALIFORNIA PELLET MILLS

CALIFORNIA PELLET MILL COMPANY
1800 Folsom St., San Francisco 3, California
1114 E. Wabash Ave., Crawfordsville, Indiana
101 E. 15th Ave., North Kansas City 16, Missouri

Sales & Service Representatives also in: Albany • Birmingham • Columbus • Davenport Denver • Fort Worth • Los Angeles • Mexico City • Minneapolis • Oklahoma City • Omaha Richmond • Seattle • St. Louis • Toronto • Winnipeg
Also manufactured, sold and serviced by Henry Simon Ltd., Stockport, England.

KEES & COMPANY

Processors of DRIED FISH SOLUBLE PRODUCTS
A "MUST" IN EVERY SWINE OR POULTRY RATION
Call or write for complete information and price
327 S. La Salle St., Chicago 4, Ill. Phone HArrison 7-1838

Here's the professor's advice to the feed manufacturer . . .

. . . *"I believe there is little doubt but what Feedstuffs is the business publication which would best serve your needs. This is an outstanding publication without rival within its field. I am sure it will fulfill your interest in 'ingredient market news, services available, technical information, innovations, etc.'"*

So wrote a professor of animal science at a large midwestern university in response to a letter from a Jamaican feed manufacturer asking which magazine would be most helpful in his business.

There are a lot of hard-headed businessmen in the feed industry who agree with the professor . . . nearly 14,000 of them subscribe to FEEDSTUFFS . . . because it helps them keep abreast of their fast-paced industry.

You can begin receiving your own personal copy of FEEDSTUFFS . . . your own complete source of industry news . . . 52 information-packed issues a year for only $5.

Write FEEDSTUFFS Circulation Department, 2501 Wayzata Boulevard, Minneapolis 40, Minnesota. Please include the name of your company and your department for our circulation records.

Convention Calendar

Oct. 16-18—Kentucky Poultry Federation and Kentucky Poultry Improvement Assn.; Kentucky Hotel, Louisville; John W. Tuttle, field manager.

Oct. 16-20 — Business Management Program; sponsored by the Southeastern Poultry & Egg Assn., University of Georgia, Athens; sec., Harold E. Ford, 235 East Ponce de Leon Ave., Decatur.

Oct. 17-18—California Animal Industry Conference; Fresno Memorial Auditorium, Fresno, Cal.; co-sponsored by California Hay, Grain & Feed Dealers Assn. and University of California; chm., Bert Maxwell, Nulaid Farmers Assn., Petaluma; association office, 1400 Tenth St., Sacramento 14.

Oct. 19-21—International Symposium on Animal Nutrition; Madrid, Spain; Geo. M. Strayer, Exec. Vice Pres., American Soybean Assn., Hudson, Iowa.

Oct. 20-21 — Alabama Nutrition Conference; Auburn University, Auburn, Ala.; sec., Alabama Feed Assn., George R. Ingram, P.O. Drawer 500, Cullman, Ala.

Oct. 20-21 — West Virginia Feed Dealers Assn.; Blackwater State Park, Thomas, W. Va.; J. Z. Ellison, 801 Willowdale Rd., Morgantown.

Oct. 20-21 — Cooperative G.L.F. Exchange, Inc.; stockholders annual meeting; Onondaga War Memorial Bldg., Syracuse, N.Y.

Oct. 20-21—Poultrymen's Institute; Washington State University, Pullman; W. R. Jenkins, Extension Poultry Specialist, Agricultural Extension Service.

Oct. 23-25 — Southeastern Feed Production School; University of Georgia, Athens; Harold E. Ford, Southeastern Poultry & Egg Assn., 235 East Ponce de Leon Ave., Decatur, Ga.

Oct. 25-26—Nebraska Poultry Improvement Assn.; National Guard Armory, Lincoln, Neb.; sec., Doyle H. Free, Poultry Husbandry Bldg., University of Nebraska, Lincoln.

Oct. 25-26 — Indiana State Poultry Assn.; Purdue Memorial Center, Purdue University, Lafayette; sec., Robert L. Hogue, Poultry Science Bldg., Purdue.

Oct. 27-28—National Swine Industry Conference; University of Kentucky, Lexington.

Oct. 27-28 — Washington Poultry and Hatchery Assn.; Chinook Hotel, Yakima.

Oct. 27-29—National Swine Industry Conference; University of Kentucky, Lexington, Ky.; chm., Keith Myers, Secretary, National Swine Growers Council, Box 241, Grundy Center, Iowa.

Oct. 28—Illinois Sheep Day; University of Illinois, Urbana; chm., Dr. U. S. Garrigus, Animal Science Dept.

Nov. 2-3 — Kansas Poultry Assn.; Broadview Hotel, Wichita; sec., Harry J. Reed, Box 663, Manhattan.

Nov. 2-3 — Illinois Feed Assn.-Illinois Poultry & Hatchery Federation, joint convention; Springfield, Armory, Springfield; sec., IFA, Dean M. Clark, 141 W. Jackson Blvd., Chicago 4; sec., IPHF, Aubrey Harless, Shelbyville, Ill.

Nov. 3—South Dakota Swine Research Day; South Dakota State College, Brookings.

Nov. 3-4 — Cornell Nutrition Conference; Hotel Statler, Buffalo, N.Y.; chm., Dr. H. H. Williams, Biochemistry and Nutrition Dept., Savage Hall, Cornell University, Ithaca, N.Y.

New Listings

For the convenience of readers who scan the Convention Calendar regularly for new listings, those added to the column in the current week appear separately from ones which have been entered previously. The following week they will be moved to their proper slot where they will remain until the event is held.

Dec. 15-16 — Business Clinic for Elevator Managers; Kellogg Center, Michigan State University, East Lansing; Carleton C. Dennis, Department of Agricultural Economics.

1961

July 24-28 — Southeastern Egg Quality and Grading School; Auburn University, Auburn, Ala.; sec., Southeastern Poultry & Egg Assn., Harold E. Ford, 235 E. Ponce de Leon Ave., Decatur, Ga.

March 8-9 — Nebraska Grain & Feed Dealers Assn.; Sheraton-Fontenelle Hotel, Omaha; sec., Howard W. Elm, Trust Bldg., Lincoln, Neb.

Nov. 9-12 — National Renderers Assn.; Statler-Hilton Hotel, Dallas, Texas; sec., Miss Jamie Fox, 30 N. LaSalle St., Chicago, Ill.

Nov. 14-15 — Washington Animal Industry Conference; Skagit Valley College, Mount Vernon, Wash.; John G. Wilson, mgr., Washington State Feed Assn., 814 Second Ave. Bldg., Seattle 4.

Nov. 15-16—North Carolina Egg Industry Conference; North Carolina State College, Raleigh; College Extension Division, Box 5125, State College Station, Raleigh.

Nov. 16—Poultry Industry Day; Blake Hall, College of Agriculture, Rutgers University, New Brunswick, N.J.; chm., Dr. R. L. Squibb, Poultry Science Dept.

Nov. 16-17—Missouri Poultry Improvement Assn.; Hotel Continental, Kansas City; sec., E. M. Funk, Columbia, Mo.

Nov. 16-18 — Florida Nutrition Conference; University of Florida, Gainesville; chm., Dr. J. P. Feaster, Animal Husbandry and Nutrition Dept.

Nov. 17-18 — Liquid Feed Assn.; Kansas City; Jack von Mettenheim, Princeton, Ill.

Nov. 20-22—Western Grain & Feed Assn. of Iowa; Fort Des Moines Hotel, Des Moines, Iowa; sec., Bob Skinner, 401 Shops Bldg., Des Moines 9.

Nov. 25-26 — American Society of Animal Production; Hotel Sherman, Chicago, Ill.; sec., Clair E. Terrill, Animal Husbandry Research Division, Agricultural Research Center, Beltsville, Md.

Nov. 27-28—Tennessee Feed Manufacturers Assn.; Noel Hotel, Nashville; sec., Charles H. Warfield, American Trust Bldg., Nashville.

Dec. 1-2 — North Carolina Animal Nutrition Conference; North Carolina State College, Raleigh; chm., Dr. J. W. Kelly, Poultry Science Dept.; cosponsored by North Carolina Feed Manufacturers Assn., sec., McNair Evans, Box 44, Mocksville.

Dec. 2-3—Arkansas Turkey Federation Convention and Show; Hot Springs, Ark.; exec. director, John Haid, Box 1446, Little Rock.

Dec. 2-3—Western Quickie Convention; Disneyland Hotel, Anaheim, Cal.; Don M. Turnbull, sec., American

CALENDAR FOR 1960-61

OCTOBER

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

NOVEMBER

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

DECEMBER

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

JANUARY

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

FEBRUARY

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28				

MARCH

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

APRIL

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

MAY

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

JUNE

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

JULY

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

AUGUST

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

SEPTEMBER

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

Poultry & Hatchery Federation, 521 E. 63rd St., Kansas City 10, Mo.

Dec. 6-7—Cornell Poultry Servicemen's Clinic; Cornell University, Ithaca, N.Y.

Dec. 6-7 — North Dakota Turkey and Egg Convention; Fargo Civic Center Auditorium, Fargo, N.D.; sec., Irving J. Mork, Fargo.

Dec. 7-8—Midwestern Quickie Convention; Conrad Hilton Hotel, Chicago; Don M. Turnbull, sec., American Poultry & Hatchery Federation, 521 E. 63rd St., Kansas City 10, Mo.

Dec. 8 — Arizona Grain and Seed Assn.; Westward Ho Hotel, Phoenix; sec., Willis F. Nielson, Box 787, Mesa, Ariz.

Dec. 8-9—Eastern Quickie Convention; Ben Franklin Hotel, Philadelphia; Don M. Turnbull, sec., American Poultry & Hatchery Federation, 521 E. 63rd St., Kansas City 10, Mo.

Dec. 12-13 — Midwest Veterinary Nutrition Conference; Continental Hotel, Kansas City; Lloyd Larson, Midwest Feed Manufacturers Assn., 20 W. 9th St. Bldg., Kansas City 5, Mo.

Dec. 13-15 — Minnesota Poultry Hatchery Assn.; Hotel Radisson, Minneapolis, Minn.; sec., L. L. Baumgartner, Litchfield, Minn.

1961

Jan. 4-6—National Turkey Federation; Conrad Hilton Hotel, Chicago, Ill.; sec., M. C. Small, P.O. Box 69, Mt. Morris, Ill.

Jan. 12-13—Michigan Feed & Grain Dealers Assn.; Michigan State University, Kellogg Center; sec., Nevel Pearson, P.O. Box 472, East Lansing.

Jan. 15-17—Indiana Grain & Feed Dealers Assn.; Claypool Hotel, Indianapolis; sec., Fred K. Sale, 600 Board of Trade Bldg., Indianapolis 4.

Jan. 16-17—Northwest Retail Feed Assn.; Hotel Pick-Nicollet, Minneapolis; sec., W. D. Flemming, 112 Grain Exchange Bldg., Minneapolis, Minn.

Jan. 23-25—Farmers Grain Dealers Assn.; Civic Memorial Auditorium, Fargo, N.D.; sec., Lloyd C. Hanson, 513 Black Bldg., Fargo.

Jan. 23-25 — Southeastern Poultry & Egg Assn.; Municipal Auditorium, Atlanta, Ga.; sec., Harold E. Ford, 235 E. Ponce de Leon Ave., Decatur, Ga.; for reservations: Atlanta Convention Bureau, Rhodes-Haverty Bldg., Atlanta.

Jan. 27 — Missouri Turkey Day; University of Missouri, Columbia; E. M. Funk, sec., Missouri Poultry Improvement Assn., Poultry Bldg., Box 568, Columbia.

Jan. 31-Feb. 1 — Hoosier Turkey Trot; Purdue Memorial Union, Purdue University, Lafayette, Ind.; John N. Howell, Turkey Department, Indiana State Poultry Assn., Poultry Bldg., Purdue University.

Feb. 2-3—Oregon Animal Nutrition Conference; Withycomb Hall, Oregon State College, Corvallis.

Feb. 3-4—Minnesota Turkey Growers Assn.; Leamington Hotel, Minneapolis; sec., Roy Munson, 2200 University Ave., St. Paul, Minn.

Feb. 6-7—Montana Nutrition Conference; Montana State College, Bozeman; chm., Dr. O. O. Thomas, Animal Industry and Range Management Dept.

Feb. 7-10 — American Dehydrators Assn.; Jung Hotel, New Orleans, La.; executive vice president, Joseph Chrisman, 430 Board of Trade Bldg., Kansas City 5, Mo.

Feb. 8-9—Pacific Northwest Feed Mill Production School; Hotel Leopold, Bellingham, Wash.; sponsored by Washington State Feed Assn.; mgr., John G. Wilson, 814 Second Ave. Bldg., Seattle 4.

Feb. 10 — Washington State Feed Assn., annual convention; Hotel Leopold, Bellingham, Wash.; mgr., John G. Wilson, 814 Second Ave. Bldg., Seattle 4.

Feb. 10-11—Poultry Fact Finding Conference; sponsored by Institute of American Poultry Industries; pres., Harold M. Williams, 59 E. Madison, Chicago 2.

Feb. 19-21—Midwest Feed Manufacturers Assn.; Hotel Muehlebach, Kansas City, Mo.; executive vice president, Lloyd S. Larson, 20 W. 9th St. Bldg., Kansas City 5, Mo.

Feb. 19-21 — Ohio Grain & Feed Dealers Assn.; Neil House, Columbus; sec., George G. Greenleaf, 5625 N. High St., P.O. Box 121, Worthington.

March 8 — Distillers Feed Conference; Sheraton Gibson Hotel, Cincinnati, Ohio; L. E. Carpenter, Executive Director, Distillers Feed Research Council, 1232 Enquirer Bldg., Cincinnati 2.

March 16-17—Oregon Feed & Seed Dealers Assn.; Sheraton-Portland Hotel, Portland; mgr., Russ Hays, 702 Lewis Bldg., Portland 4.

March 16-17 — Maryland Nutrition Conference; Shoreham Hotel, Washington, D.C.; chm., Dr. R. D. Creek, Poultry Husbandry Dept., University of Maryland, College Park.

March 20-24—Grain & Feed Dealers National Assn.; Washington D.C.; sec., Herbert L. Sharp, 400 Folger Bldg., Washington 5, D.C.

April 3-4 — National Institute of Animal Agriculture; Purdue University, Lafayette, Ind.; sec., Karl D. Butler, P.O. Box 521, First National Bank Bldg., Ithaca, N.Y.

April 10-12—Poultry & Egg National Board; Sheraton Towers Hotel, Chicago, Ill.; mgr., Lloyd H. Geil, 8 S. Michigan Ave., Chicago 3.

April 20-22—California Hay, Grain & Feed Dealers Assn.; Jack Tar Hotel, San Francisco; sec., Leo L. Johnson, Blue Anchor Bldg., 1400 10th St., Sacramento 14.

April 27-29—Kansas Grain & Feed Dealers Assn.; Broadview Hotel, Wichita; sec., Orris E. Case, 609 Wiley Bldg., Hutchinson.

May 7-10—American Feed Manufacturers Assn. Convention and National Feed Show; Conrad Hilton Hotel, Chicago, Ill.; sec., W. T. Diamond, 53 West Jackson Blvd., Chicago 4.

June 8-11 — Canadian Feed Manufacturers Assn.; National Convention; Manoir Richelieu, Murray Bay, Quebec; national secretary, W. N. Hendrick, 2901 Bloor St. W., Toronto 18, Ont.; for registrations, T. G. Sevigny, Room 100, 355 McGill St., Montreal 1, Quebec.

July 18-20—American Poultry Congress & Exposition; Municipal Auditorium, Minneapolis; Don M. Turnbull, sec., American Poultry & Hatchery Federation, 521 E. 63rd St., Kansas city 10, Mo.

Aug. 24-26 — North Carolina Feed

MIXERS'
PULVERIZED OATS

A competitively priced grade that has a record for improving the quality of mixed feeds. Also available in pelleted form.

Phone: FRanklin 4-2142 Teletype: MP477

FRUEN Fruen's MILLING CO.
MINNEAPOLIS, MINN.

Are your hammermill cyclones robbing YOUR plant of valuable product?

Ineffective control of the product discharge from hammermill cyclones can rob you of thousands of dollars a year of extra profits. You can stop this product loss and the savings in product (based on a cyclone efficiency of 98%) will pay for a DAY dust filter in *less* than one year. If you now have several hammermill cyclones operating, you can combine them into one filter installation and your filter will pay for itself in much less than a year. For new plants, cyclones can be eliminated completely, which also results in a "payoff period" much shorter than one year.

This double element DAY "RJ" dust filter is used as a secondary collector to capture "fines" being discharged from a cyclonic separator.

PRODUCT SAVING is just one of many important benefits you enjoy with DAY dust filters. You'll also have cleaner plants and roofs which means lower housekeeping costs. More effective dust control also means better community relations.

WRITE toDAY for complete facts about DAY dust filters and how they can save you money and pay for themselves. For detailed information on DAY "RJ" dust filters request BULLETIN G-30 . . . it's free.

The **DAY** *Company*

SOLD in UNITED STATES by The DAY SALES Company 819 Third Avenue N.E. Minneapolis 13, Minnesota FEderal 6-9671

MADE and SOLD in CANADA by The DAY Company of Canada Limited Rexdale (Toronto), Ontario, Canada Fort William, Ontario, Canada Rexdale, Cherry 1-8589

Representatives in Principal Cities

EXPERIENCE ENGINEERED . . . LABORATORY TESTED . . . PLANT PROVEN
Dust Control • Pneumatic Conveying • Bulk Storage
EQUIPMENT . . . SYSTEMS . . . INSTALLATION

Manufacturers Assn.; Virginia Beach, N.C.; sec., McNair Evans, Box 44, Mocksville.

Oct. 22-24—Midwest Nutrition Conference; Hotel Muehlebach, Kansas City, Mo.; sponsored by Midwest Feed Manufacturers Assn.; executive vice president, Lloyd S. Larson, 20 W. 9th St. Bldg., Kansas City 5, Mo.

1962

Aug. 13-18—12th World's Poultry Congress; Show Grounds of the New South Wales Royal Agricultural Society, Sydney, Australia; Dr. Cliff D. Carpenter, chairman, U.S. Participation Committee, 1207 Emerald Bay, Laguna Beach, Cal.; Dr. A. William Jasper, secretary, c/o AFBF, 2300 Merchandise Mart, Chicago 54, Ill.

CONSULTANT MOVES

DES PLAINES, ILL. — Announcement has been made that Charles H. Hubbell, formulation and research consultant to the formula feed industry, has moved his office from Chicago to 678 Lee St., Des Plaines.

Feeder Cattle Credit Easing in Corn Belt

CHICAGO—This fall's feeder cattle loan situation is shaping up as quite different from that of a year ago.

The latest Agricultural Letter of the Federal Reserve Bank of Chicago notes that demand for new loans by farmers in the major cattle feeding areas has been lower, reflecting substantially lower prices for feeder cattle and fewer numbers of cattle being shipped into the Corn Belt. Credit conditions in Iowa and Illinois, the Chicago bank says, should generally be somewhat easier this fall than last fall.

"Perhaps the major similarity between the two years is the concern of farmers over possible losses in cattle feeding operations in view of probable continued declines in prices of fed cattle," the bank's letter states. "Even with prices of stocker and feeder cattle nearly $5 cwt. below last year there is considerable hesitancy in making purchase commitments."

It was noted that feeder cattle shipments are rising seasonally and many Corn Belt cattle feeders are investigating the availability of credit to finance purchases this fall. A year ago, however, the combination of high feeder cattle prices and large numbers placed on feed brought very high farm loan demand in cattle feeding areas.

Researchers of the Federal Reserve Bank of Chicago report that agricultural loan volume at country banks in Iowa and Illinois began rising sharply with the upswing in cattle prices in mid-1957.

"The impact of the higher loan volume in 1958 was eased by the rise in deposits, reflecting above-average returns from cattle feeding and high hog prices," the bank reports. "However, deposits declined during 1959 and the first part of 1960 in response to lower hog prices and reduced farm income. Thus, the combination of declining deposits, high loan demand and caution concerning possible losses from cattle feeding operations brought 'tight' credit conditions to the cattle feeding areas last fall."

Boston Firm Chosen Phosphate Sales Agent

NORFOLK, VA.—Boston (Mass.) Feed Supply, New England supplier of feed ingredients, has been appointed northeast sales agent for CDP (Coronet Defluorinated Phosphate), Henry Highton, Smith - Douglass feed phosphorus sales manager, has announced.

J. W. Kuske

Boston Feed Supply will represent CDP in Connecticut, Rhode Island, Massachusetts, Vermont, New Hampshire and Maine. Boston Feed Supply owner, J. W. Kuske, announced that CDP can be delivered in these states by rail and at some destinations by truck.

Mr. Kuske, a 1941 graduate of Rutgers with a degree in agriculture, worked eight years in the feed supplements department of the Borden Co. prior to joining the Chas. Pfizer & Co., Inc., technical service department. He later joined the New England By-Products Co., where he became sales manager, before founding Boston Feed Supply.

Boston Feed Supply serves the industry with fish meals, fish solubles, frozen fish and whale meat, plus CDP.

Smith-Douglass Sales, Income, Earnings Rise

NORFOLK, VA.—Smith-Douglass Co. has announced that, in its operating year which ended at July 31, 1960, net sales totaled $53,537,211, with net income of $3,535,683 and earnings per common share at $3.48.

For operating year 1959, net sales were $45,926,007 with net income $2,749,079 and earnings per common share at $2.75.

Further, the announcement said that of the 73¢ per common share increase in net earnings over 1959, 64¢ thereof was attributable to a favorable tax position which is not applicable after operating year 1960.

In its meeting, the board of directors declared a 5% dividend on preferred stock payable on Sept. 30 to stockholders of record on Sept. 28, and a first quarter dividend of 30¢ per share on common stock payable Nov. 20 to stockholders of record Oct. 28.

The company announced that its annual report to stockholders would be distributed prior to Oct. 15; that its annual stockholders meeting would be held Nov. 16, and that the board had fixed Oct. 28 as the record date for common stockholders who will be entitled to vote at the annual meeting.

MR. TOM ARRENDALE—PRESIDENT
ARRENDALE'S FEED STORE, INC.,
CLARKESVILLE, GEORGIA:

"Fastest handling, least fines, top payloads, and years of field-proven operation... sold us on the spot"

WORLD'S LARGEST PURINA DEALER SELECTS FMC SYSTEM AS BEST PERFORMER, BEST BUY, FROM ACTUAL FIELD TESTS

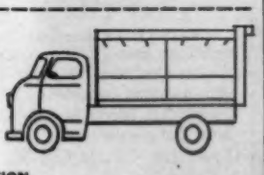
Attending a field demonstration of competitive bulk bodies, Arrendale saw the fastest pellet unloading with the least fines by FMC's Bulk Transport System. He found out about FMC's bigger payloads made possible by the lightweight, rugged aluminum body. And when Arrendale learned that original 12 year-old units were still in daily operation, that cinched it—*he ordered his first FMC bulk body then and there.*

Pictured above are five of the seven FMC units now being operated by Arrendale. These all have FMC's exclusive standard features: paddle conveyor, aluminum body, sliding-gates, all-mechanical operation, wide sack decks, and highest *legal* payloads.

Now you, too, can boost profits by using FMC's Bulk Transport Systems for least ton-mile delivery costs.

ALL of FMC's exclusive features available in a two compartment; 12 ft. body; f. o. b. Hoopeston, Illinois; mounted on your 2-axle truck for legal 8-9 ton payloads . . . for only

$3960.00 PLUS STATE & LOCAL TAX



MAIL COUPON FOR COMPLETE INFORMATION

fmc FOOD MACHINERY AND CHEMICAL CORPORATION

Putting Ideas to Work

Bulk Transport Systems

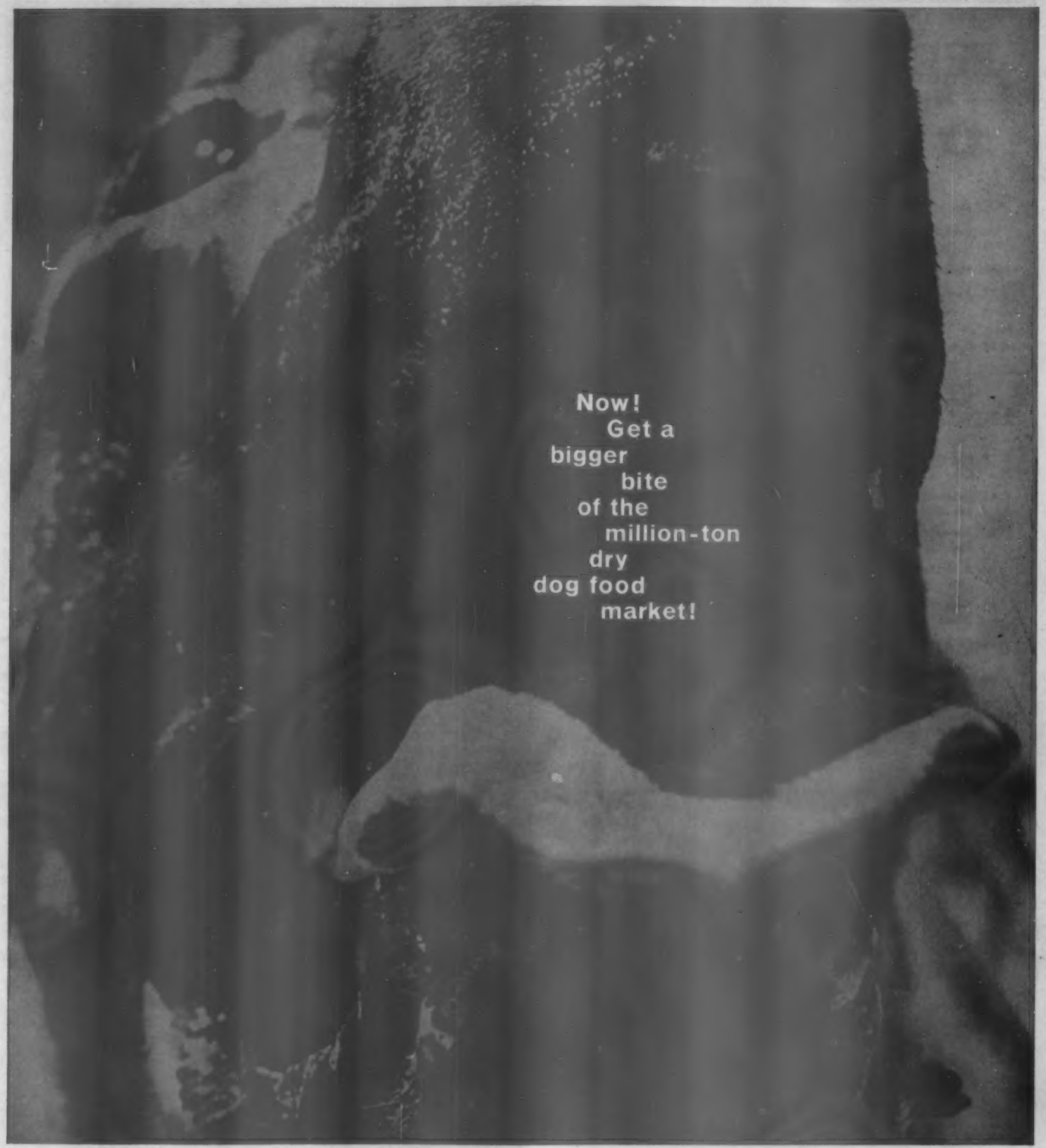
RIVERSIDE, CALIFORNIA
HOOPESTON, ILLINOIS

FOOD MACHINERY AND CHEMICAL CORPORATION
Bulk Transport Systems Section • Riverside, California

NAME_____
COMPANY_____
ADDRESS_____
CITY_____ STATE_____

VACCINATE
AGAINST COCCIDIOSIS WITH
CocciVac.

Green Banner
MIDWEST ALFALFA BLENDERS, INC.
7501 Mission Road
Kansas City • MI 9-0386
Dehydrated Alfalfa



Improve your products–and your profits–with these quality dog food supplements from Borden's

The dog population of the United States is on the rise. So is dog ownership. So, indeed, are your possibilities for profit. Reason? More dogs will obviously require more food. Yet, on the emotional level, more dog owners will require added assurances of quality. To this end, Borden's research and development has produced five remarkable supplements that can help you build a better food formula more economically—and get a bigger bite of this lucrative market.

BORDEN'S MG replaces dried whey on a pound-for-pound basis. Milk and Grain sources of whey factors...condensed whey solubles and fermented corn extractives, corn distillers dried solubles and dried whole whey in a dry free-flowing form. **BORDEN'S MRB replaces dried skim milk on a pound-per-pound basis.** Milk Replacer Base—high in protein and milk nutrients. Condensed whey solubles dried on soy flakes with added soy lecithin...flour like, free-flowing and easy to mix. Also available as HI-FAT MRB with 15% added choice white grease. **BORDEN'S CASEIN replaces high-cost horse meat or meat by-products.** A highly digestible protein of high biological value, comparable to protein in meat. The protein level is 86-88%—milk protein high in the amino acid lysine. **BORDEN'S CP#3 adds palatability and lasting taste appeal.** A standardized blend of cheese scrap dried on a free-flowing carrier. Easy to handle, inexpensive. **BORDEN'S PETPRO supplements cereal-base foods.** This all-in-one supplement contains whey, fermentation factor ingredients, liver and glandular meal, fish meal, fish solubles and all the essential microingredients, plus cheese powder for palatability.

Today's best dog foods are made with Borden's quality supplements.

And remember! Borden's Technical service is available at no charge to help you develop new formulas or improve old ones. Call or write us today for further information.

borden's feed supplements division
350 Madison Avenue · New York 17, N. Y.
Better products through Borden research

FEEDSTUFFS reprints

The following reprints of articles which have appeared in Feedstuffs may be obtained on order from Feedstuffs' Reader Service Department:

3. **Mobile Feed Milling**—a series of five articles—by Al P. Nelson.. 50c
26. **Feedstuffs' 1960 Analysis Table for Feed Ingredients**—by Charles H. Hubbell 20c
38. **Balancing Swine Rations**—Dr. D. E. Becker, University of Illinois.. 20c
52. **Analysis and Feeding Value Tables for Beef Cattle and Sheep**—6-page article, by Dr. S. H. Morrison, Nutrition Consultant, 25c single copy; 3-5 copies, 15c ea.; 10 or more, 10c each.
69. **Pelleted Rations for Beef Cattle**—Dr. Wise Burroughs, Iowa State University 20c
70. **Tomorrow's Formulas for Swine Feeding**—Dr. Damon Catron, Iowa State University 20c
71. **The Grain Bank Has Come of Age**—Glenn R. Siler, Ralston Purina Co. 20c
72. **Fat Handling in the Feed Mill**—A. J. Kathman, Procter & Gamble Co. 20c
75. **Influence of High Calcium Intake Upon Egg Production Factors—Including Shell Quality**—C. F. Petersen, University of Idaho 20c
76. **Automation in the Feed Industry**—Paul O. Berg, Professional Engineer 20c
78. **A Method for Calculating the Methionine Requirement for the Laying Hen**—Dr. Gerald F. Combs, University of Maryland 20c
80. **Feed, Fat and Swine**—Dr. Coy C. Brooks, Virginia Polytechnic Institute 20c
83. **High Protein-Urea Supplements With and Without Lysine for Fattening Steer Calves**—Purdue University Scientists 20c
84. **A New Look at the Broiler Business**—Dr. L. A. Wilhelm, The Quaker Oats Co. 20c
85. **Poultry Ration Formulation. Two Articles**—Dr. R. D. Crook, University of Maryland 30c
86. **Protein and Amino Acid Nutrition of Turkeys**—Dr. P. E. Waibel, University of Minnesota 20c
87. **Chemical, Biological Study Made of Milo Feeding Value**—W. G. Smith and Dr. E. L. Stephenson, University of Arkansas 20c
88. **Feed Buying Study**—a series of 3 articles—Drs. Kohls and Kruckeberg, Purdue University 50c
89. **The Role of Linseed Oil Meal in Beef Cattle Nutrition**—Dr. T. W. Perry, Purdue University 20c
90. **Feedlot Disease and Health Losses**—series of six articles—plus special guide to feedlot animal health and disease problems of beef cattle and sheep—Dr. Spencer H. Morrison, Nutrition Consultant. Reprinted from FEEDLOT, national farm business magazine for cattle and lamb feeders $1.00
91. **Pinch Hitting for Protein**—Dr. U. S. Garrigus, University of Illinois 20c
92. **Proceedings of the 49th Annual Meeting of the Poultry Science Assn.**—Dr. E. L. Johnson, University of Minnesota 40c
93. **Leg Weaknesses in Turkeys Are Costly**—Dr. M. L. Scott, Cornell University 20c
94. **The Metal-Binding Properties of Soybean Protein**—Dr. L. C. Norris, University of California 20c
95. **The Effect of Phytic Acid and Other Organic Factors on Zinc Utilization by the Growing Pig**—Dr. M. P. Plumlee, Purdue University .. 20c
96. **Cost Study**—a series of three articles, Dr. Richard Phillips, Iowa State University 40c
97. **Enzymes in Poultry Feeds**—Dr. Leo S. Jensen, Washington State University 20c
98. **Urea in Ruminant Feeding**—Dr. W. M. Beeson, Purdue University 20c

FEEDSTUFFS
Reader Service Department
P.O. Box 67
Minneapolis 40, Minn.

Please send me number(s) .....

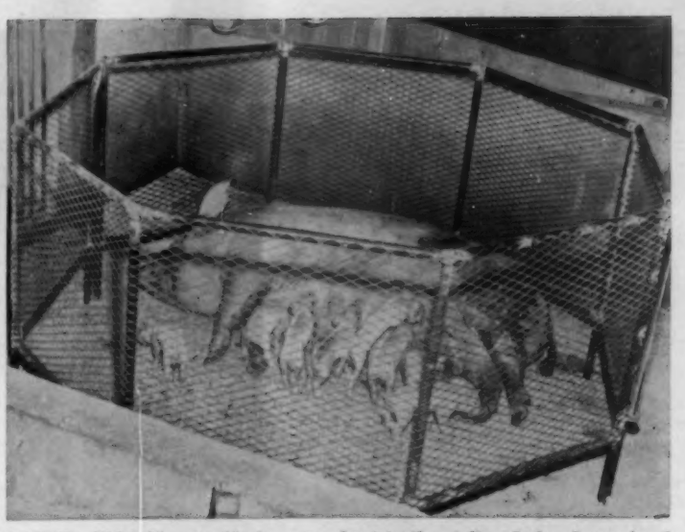
..... **for which payment is enclosed.**

NAME .....

COMPANY .....

ADDRESS .....

CITY ..... **ZONE** ..... **STATE** .....



ROUND—This gilt was able to move about in the stall and obey her natural instinct, according to the study. She farrowed nine pigs, all alive.

Nebraska Study Indicates Round Farrowing Stall Has Advantages

LINCOLN, NEB.—Studies at the University of Nebraska indicate that use of round farrowing stalls can play an important part in eliminating problems associated with farrowing in conventional rectangular shaped stalls.

Observations made on the swine nutrition sow herd indicated that round stalls have all the advantages of conventional stalls plus an additional advantage of allowing the sow (and particularly the gilt) to obey her natural instincts at farrowing time, according to Dr. E. R. Peo, Jr., assistant professor of animal husbandry, University of Nebraska.

Results of the study are as follows:

For example, the instinct to build a nest increases as farrowing time approaches. Yet, in a rectangular shaped stall, the sow cannot obey this natural urge and as a consequence, she becomes confused and frustrated. This usually leads to struggles by the sow in an attempt to get out of the stall. In the end the sow becomes so exhausted she accepts her fate and farrows within the confines of the stall.

What effect does this have on the farrowing performance of the sow? At best, it is not good. Often, many apparently normal, well-developed pigs are born dead. One major possible cause is asphyxiation due to prolonged labor in the exhausted and weakened sow. In addition, the lactation performance of the soy can be affected. During her struggle to get out of the stall, the sow bruises herself and many times her nipples and udders are lacerated by her hoofs when she is getting up and down. This imposes another stress upon the sow and either she fails to milk or is slow coming into milk. The pigs get off to a poor start because the sow does not milk well.

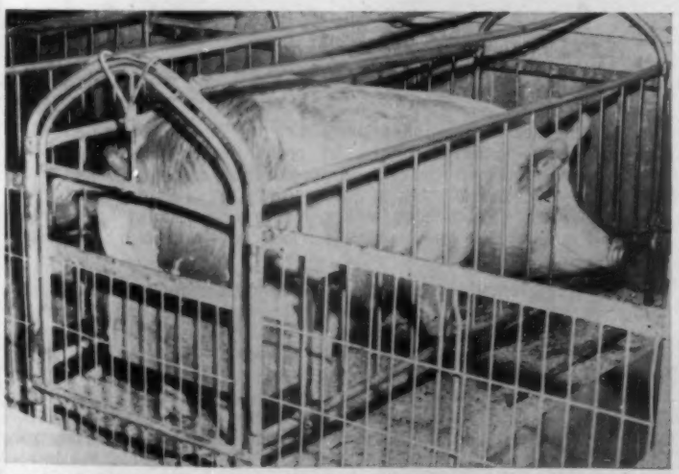
EDITOR'S NOTE: *The information on round stall farrowing was presented in the Nebraska Experiment Station Quarterly. The report was written by Dr. E. R. Peo, Jr., assistant professor of animal husbandry.*

With the round stall, the sow has some degree of freedom and when farrowing time approaches she is relatively free to obey her natural instincts (such as building a nest) without any noticeable restriction. She does not fight the stall and is not in an exhausted state when farrowing begins.

The gilt in the rectangular stall is approaching farrowing. Already she is searching for ways to get out of the stall. Her instinct tells her to circle and build a nest. In this type of a restrictive stall she cannot obey her natural instinct. The result was an exhaustive struggle for freedom. She farrowed 10 pigs, five dead and five alive.

In contrast, the gilt in the round stall was first placed in a rectangular shaped stall. As farrowing time approached, she started to fight the stall quite severely. She was removed and put in the round stall. Since she was able to move about and obey her natural instincts, she did not fight the round stall. The result, nine pigs farrowed alive and raised.

The round stall (it is actually oc-



RECTANGULAR—This gilt housed in a rectangular stall farrowed 10 pigs, five dead and five alive.

tagon shaped) was designed by the author and constructed by Urban Wendorff of the department of agricultural engineering. It is approximately 77 in. in diameter, 36 in. high, 9 in. from the floor and is constructed of pipe and 27 in. expanded metal. Two removable pins are used to fasten it together. The removal of one pin allows the stall to be opened for sow entry. Since only two pins are involved, it is very easy to take apart for cleaning and storage. The stall can be fastened in position with leg bolts.

Since only a few sows have been studied more time will be needed to adequately evaluate round farrowing stalls. To date the only disadvantage that has been determined is that round stalls require more building space. However, the amount is not great and is well worth the sacrifice when the advantages are fewer farrowing and lactation problems.

Staff Changes Made At University of Illinois

URBANA, ILL.—Dr. O. Burr Ross, head of the University of Illinois department of animal science, has announced the appointment of Stanley Smith to the beef cattle research division.

At the same time, Dr. Ross revealed the selection of Dr. D. E. Becker as head of the swine division. Dr. Becker, a member of the Illinois staff for 10 years, succeeds the late Stanley W. Terrill. Dr. Becker is well known for his work in swine nutrition.

Turning to the extension staff, Dr. Ross reported the one-year appointment of W. F. Nickelson as one of the four Illinois livestock extension specialists. Mr. Nickelson temporarily replaces Terry R. Greathouse, who is working toward his Ph.D. degree at the University of Kentucky this year.

In discussing Dr. Smith's appointment to the beef cattle division, Dr. Ross said that he replaces George W. Mitchell, who has joined the Kentucky staff. Dr. Smith's work will involve beef cattle nutrition research and graduate teaching.

During the past year, he has been taking post-doctoral work in Illinois' animal nutrition division.

North Carolina Plans Egg Industry Meeting

RALEIGH, N.C.—Commercial egg producers should make their plans now to attend the second annual Egg Industry Conference which will be held on Nov. 15 and 16 at North Carolina State College in Raleigh, say meeting officials.

This year's program will be devoted to a series of discussions on egg prices—how they develop, how they are reported, and other factors of interest to the seller of market eggs.

Among the out-of-state speakers will be Dr. C. K. Laurent of the Marbut Milling Co., Augusta, Ga.; L. C. Giffin, U.S. Department of Agriculture, reporter in charge of the New York dairy and poultry market news office; C. A. Middleton, supervisor of market news, Virginia department of agriculture; Harold Ford, executive secretary, Southeastern Egg & Poultry Assn.; Gordon Urner, vice president, Urner-Barry Co. of New York, and William Groff, head egg buyer for American Stores.

Dr. R. A. King and F. A. Mangum of the state college agricultural economics staff will also appear on the program.

NUTRITION COURSE SPEAKERS—These six college scientists spoke during the two-day Animal Nutrition and Health Short Course held recently at the University of Minnesota in St. Paul (Feedstuffs, Sept. 17). First picture, left to right, Dr. R. W. Berg, host college; Dr. Paul A. Thornton, Colorado State University, Ft. Collins, and Dr. M. H. Swanson, University of Minnesota, chat. In the second picture, left to right, Dr. O. E. Kolari, Dr. W. J. Aunan and Dr. R. J. Meade, all of the host school, look over the program.

Pennsylvania Adjusts To Modern Agriculture

UNIVERSITY PARK, PA.—"Agriculture is changing in Pennsylvania, and a program for adjustments to meet these changes must be based on penetrating analysis," said Harry J. Poorbaugh, assistant director of the Pennsylvania State University's agricultural extension service. Mr. Poorbaugh was speaking at a recent meeting of the new Agindustry Adjustment Affairs Organization.

Mr. Poorbaugh, also chairman of the program steering committee for this group of agindustry leaders, stated that population shifts and growth and out-of-state competition for markets are examples of this change and proof of the need for adjustments to create stability in agindustry.

Dean Lyman E. Jackson of Penn State's College of Agriculture added that questions about Pennsylvania's agindustrial economy can be answered only by going far beyond the normal spheres of research, teaching and agricultural extension work. All segments must become dynamically aware of the necessity for adjustments, because so much more than just production on farms is involved.

OPEN HOUSE AT MILL

ROCKWELL, CITY, IOWA — The Farmers Cooperative Elevator recently held an open house at its new feed mill. Dan Adams is the manager of the new facility.

Continental to Open Office in Kansas

HUTCHINSON, KANSAS—Continental Grain Co. will open an office in Hutchinson, Kansas, according to an announcement from Michel Fribourg, president.

Seaborn W. Brown, formerly manager of the Louisville office, will represent Continental in Hutchinson. Following the sale of the Continental elevator to the Distillers Grain Co., the Louisville office of Continental was closed Sept. 15.

Mr. Fribourg also announced that Chester W. Polson, associated with the Kansas City office of the company the past year, has been assigned to the merchandising staff of the Ft. Worth office of Continental Grain Co. This office is in charge of Texas operations.

Hoffman

for vitamins

Hoffman-Taff Inc.
SPRINGFIELD, MISSOURI

BOWMAN PRODUCTS

BoDEE (Mineral) STABLE VITAMINS D
Vita D that will not decompose when combined with minerals.

BoDEE
Vitamin D-2 or D-3 in dry, oil or water dispersible forms.

BoA-S and Bo-A
Stable dry vitamin A products.

BHT
Oil soluble Vitamin protector and pigmentation aid.

HYDROPOID
Dry, free-flowing partially hydrogenated animal fat.

XANTHOPHYLL CONCENTRATES
For better poultry pigmentation.

CLOROFOLEN
Effective dog food deodorant.

ENZYMATIC SYSTEMS

Bowman Feed Products, Inc.
130 Central Ave. HOLLAND, MICH.
3030 Hines Avenue Culver City, Calif.

Wenger's — NEW BULK UNLOADER FOR { Flat Bed Trucks—Economical / Mill to Farm Deliveries.

Handle both bagged and bulk feeds, (mash, pellets, crumbles, etc.) and whole grains in a single flat bed truck. Horizontal unloader recessed in floor of truck. Vertical boom is 7 feet high (extra height optional). 14 ft. unloading boom will rotate 360 degrees and may be elevated to 18 ft. above ground level with hydraulic hand pump furnished with unit. Entire unit is power driven from power take off. May be installed in your own shop.

Write for information giving dimensions and make of your truck bodies.

Wenger Mixer Manufacturing
SABETHA, KANSAS PHONE AVenue 4-2133

Standard of the Industry for Liquid Feed Mixing, Pelleting and Cooling Equipment

Pigs Gain Faster With Hog Wallows

COLLEGE STATION, TEXAS—Recent studies at Texas show that providing hogs with wallows can speed up gains considerably. The research, reported by Fred Hale, department of animal husbandry, Texas A&M College, was conducted to determine the value of a concrete hog wallow for growing-fattening pigs.

Most hog producers have observed that hogs need shade and that fattening hogs will turn any water hole into a mud wallow in hot weather, says Prof. Hale in an article appearing in the Texas Feed Service Report. Hogs do this to keep comfortable and cool. When they are comfortable, they have better appetites, eat more feed and make faster gains.

The Texas Agricultural Experiment Station was one of the first to conduct an experiment to find out the value of a concrete hog wallow for growing-fattening hogs, says Mr. Hale. The results of this study are given in Table 1.

Experiment Described

Each pig was fed in an individual pen. A concrete hog wallow, large enough for one pig, was used. The hog wallow was constructed just outside the barn and was exposed to the sun. The wallow was drained as often as necessary to keep the water clean. The pigs were drylot-fed, and both inside and outside pens had concrete floors.

The pigs were on test from June 8 to Sept. 6.

Pigs having access to the hog wallow weighed as much in 80 days as did the pigs without the wallow in 90 days. This saving of 10 days time means less labor and overhead costs and could mean a higher market price.

"Hogs use concrete hog wallows a great deal like they use a self-feeder," says Mr. Hale. "They do not stay in the wallow very long at a time. For this reason, a wallow that is large enough for 10 hogs weighing 200 to 225 lb. will take care of 30 hogs of similar weight.

"After the hog stays in the wallow long enough to get wet, he likes to get under a cool shade on a dry floor. A good shade should be provided 10 to 20 feet away from the wallow."

TABLE 1. Hog Wallow Versus No Hog Wallow for Fattening Pigs 90-Day Drylot Test*

Ration—Fed in self-feeder:		Pigs with wallow	Pigs without wallow
Ground sorghum grain	60 lb.		
Ground oats	10 lb.		
Wheat shorts	10 lb.		
Tankage	10 lb.		
Bone meal	1.5 lb.		
Salt	0.5 lb.		
Number pigs on test		9	9
Average initial weight, lb.		59.55	59.89
Average gain, lb.		165.55	146.80
Average final weight, lb.		225.10	206.65
Average daily gain, lb.		1.84	1.63
Total feed eaten, lb.		5,356	4,679
Total feed required per cwt. gain, lb.		359	354

*Average temperature during the test was 85° F.

Water-spray System

The Texas Station has put into use a water-spray system to keep the fattening hogs cool in hot weather. The spray nozzles are of a mist-type and deliver about 1.5 gal. of water per hour per nozzle at 70 lb. pressure.

Some hog feeders place a plastic water hose that throws out a mist above a concrete floor with good results. Others have used a metal V-shape gutter with small holes in the bottom of the V. A water hose provides a small stream of water that runs into the V trough and then drips down on the hogs below.

ATTENTION: GRAIN BANKS!

Put this dryer to work—

WITHOUT BUYING IT!

Try it before you buy it! Take the guesswork out of drying. With ARID-AIRE's trial plan you know whether your business will justify *any* grain dryer. Only ARID-AIRE offers you this opportunity to prove to yourself before you buy, that grain drying *is* profitable. You'll discover that ARID-AIRE builds profits, promotes business and pays for itself.

For long pull profits in grain bank operation, a dryer helps you *eliminate* 3 customer problems:

1. Lets you take high-moisture grain at harvest time.
2. Eliminates down-grading — everyone gets credit for No. 2 quality grain in the grain bank, and takes out equal or better.
3. There is no spoiled grain resulting from wet or inferior grain.

Investigate the exclusive features of ARID-AIRE — only ARID-AIRE offers a complete range of horizontal and vertical dryers in capacities to meet any requirements — only ARID-AIRE offers you the opportunity to TRY — BEFORE YOU BUY!

Write today and get the details!

DAYCOM, INC.

A Subsidiary of The DAY Company

Dept. A, 157 N. Bryant Ave. • Minneapolis 3, Minn.

DAYCOM, Inc.
Dept. A, 157 N. Bryant Ave.
Minneapolis 3, Minn.

Please send free literature. I am interested in

☐ Horizontal dryer ☐ Vertical dryer ☐ Portable dryer

Name_____

Address_____

City_____ State_____

Farm Credit System Loans Set Record

WASHINGTON—Farmers and cooperatives made record use of their farm credit system loan facilities during the fiscal year ended June 30, according to R. B. Tootell, governor of the Farm Credit Administration.

This independent agency, which supervises the credit system nationally, reports that farmers and purchasing and marketing cooperatives borrowed nearly $4 billion during the year while their loans outstanding reach a new high of $4.8 billion.

Mr. Tootell attributed much of the continued rise in use of credit by farmers to their efforts to improve efficiency through substituting capital for labor.

It was pointed out that much of the increased use of credit was through the 494 production credit associations where farmers last year borrowed $2.6 billion—an increase of 5.8%—to pay operating expenses and to make purchases of equipment, machinery and other capital items.

The 13 banks for cooperatives, which make facility, working capital and commodity loans, loaned $672 million to over 2,000 purchasing, marketing and business service cooperatives—an increase of 5.6% over a year earlier.

Although the total of farmers' new long-term mortgage loans from federal land banks amounted to 10% less than during the previous year, the amount of loans farmers had outstanding hit a new peak of $2.5 billion at the year's end, according to Mr. Tootell.

Combined net worth of the banks and associations of the system increased by $58 million during the year to over $1.2 billion.

Cable Address: Parrheim

P&H

GRAIN • FLOUR • FEEDS •

Domestic & Export

PARRISH & HEIMBECKER LIMITED

Export Office — TORONTO, CANADA

WINNIPEG — CALGARY — MONTREAL

The Nutritionist Travels Thousands of Miles

OMAFAC*

The nutritionist is constantly in touch with the latest research work in all parts of the country. At many meetings and conferences, he is constantly searching for new information to add to the results of his own research. Formulations are then thoroughly proved on his research farm. This results in rations which give your broilers fastest growth—at lowest cost.

Nutritionists have found that Squibb's Omafac helps to produce a more efficient ration. Only 0.5% of Omafac will replace 4% to 5% of crude Unknown Growth Factor supplements—and at less cost per ton. Omafac also increases the antibiotic content of the ration by 15 gm. per ton (streptomycin sulfate) at the 0.5% level. An additional plus factor is Omafac's uniformly high Vitamin B_{12} content.

Omafac is produced by Squibb from dried penicillin and streptomycin residues. The analysis shown on the label is guaranteed. Omafac is always in dependable year-round supply. Write for more facts.

Another Squibb Feed Ingredient

Squibb Procaine Penicillin G is a special grade of penicillin with *Controlled Particle Size*.[1] Developed especially for use in *all* feeds, it has an exceptionally high degree of stability in mash or pelleted form. Flows freely and mixes readily, will not lump or cake.

Available as 100% procaine penicillin unmasked by carrier. Also as 80% and 50% in oyster shell meal.

FREE: Send for Technical Bulletin containing stability data, recommended usage, etc. Write today to: Chemicals Sales Department, E. R. SQUIBB & SONS, *Division of Olin Mathieson Chemical Corporation*, 745 Fifth Avenue, New York 22, New York.

1. Patent applied for
*OMAFAC is a Squibb trademark

©Olin Mathieson Chemical Corporation, 1960

SQUIBB—A NAME YOU CAN TRUST

OMAFAC
SQUIBB
GUARANTEED ANALYSIS:
Crude Protein . . list less than 23%
Crude Fat . . . . list less than 0.75%
Crude Fiber . . . list more than 9.0%
M.P.F. . . . . list less than 27%
E.R. SQUIBB & SONS, NEW YORK

THIS IS THE OMAFAC® LABEL. Note the guaranteed analysis which lists the percentage of each ingredient to help the nutritionist formulate more efficient broiler rations for you.

SUNSET FEED & GRAIN CO., INC.

PHONE CLEV. 2938 | 805 Dun Building Buffalo 2, N.Y. | TWX BU 71

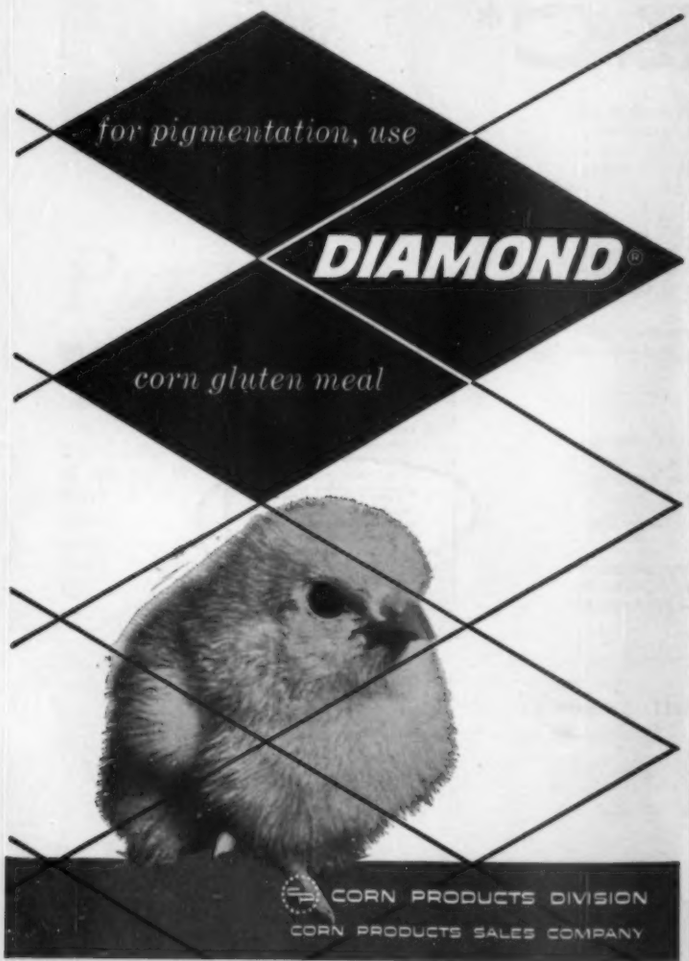
FEED JOBBERS
AND
DISTRIBUTORS OF

KELLOGG HOMINY FEED
HUBINGER GLUTEN FEED
DYNAFOS DICALCIUM PHOSPHATE AND MULTIFOS
SODIUM BENTONITE
PACIFIC MOLASSES
PILOT OYSTER SHELLS
DU PONT'S "TWO-SIXTY-TWO" FEED COMPOUND
STONEMO GRANITE GRIT
CALF MANNA
NOPCO FEED SUPPLEMENTS
PROTAMONE
TAKAMINE ENZYMES
PILOT SECOND CLEAR FLOUR

INQUIRIES APPRECIATED

For Blue Ribbon
Bloom
Your customers will keep asking for...
Minnesota
SOLVENT EXTRACTED LINSEED MEAL

MINNESOTA LINSEED OIL CO.
MINNEAPOLIS 21, MINN. • PHONE: SUNSET 8-9011



Poultrymen agree that corn gluten meal has no equal for pigmentation. Include Diamond Brand in your broiler rations to insure brightly yellow pigmented birds for premium prices.

Poultry Trends in the South—Part 2

South Shows Great Interest In Expanding Egg Production

By ROBERT H. BROWN
Feedstuffs Special Correspondent

Is the South due for further expansion in the production of commercial egg operations?

There is a new feeling of optimism and new expressions of interest in the production of eggs for consumption at home, for shipment to the populous eastern markets and for exportation. There are those in the poultry and feed business who say there is more activity going on in the South today egg-wise than at any time in many years.

A salesman, traveling for an egg carton company, said he is swamped with inquiries and leads for business. He said he had been unable to make the rounds to see everyone and was working day and night. For the first time in a number of years, he was unable to attend the Dixie Poultry Exposition at Asheville because of rushing business.

Harold Ford, executive secretary of the Southeastern Egg and Poultry Assn., reports "tremendous interest" and that most of the developments have been in new producers rather than old ones expanding or going through a rejuvenated enthusiasm for the egg business.

Broilermen Converting

There has been quite a number of broiler producers converting to eggs also, he reports.

This trend has been noted particularly in Virginia, with some people reporting as high as 50% of the broiler people changing over. Others contend the 50% estimate is a little high.

A New Jersey buyer who made a trip into the South for the first time a year and a half ago returned just recently on a second trip. He said he was amazed at the progress being made and the efforts to get in the egg business he had seen on his second trip.

"Surely, you (southerners) have caused great and favorable comment in the eastern egg markets," said George Ehlenberger, Jr., vice president of the June Dairy Products Co., Inc., of Jersey City, N.J.

However, Mr. Ehlenberger called upon southern egg marketers to use better packing and shipping facilities in order to assure a better market price in eastern markets. He suggested using new materials instead of second hand crates and liners.

When he first visited the Southeast, he said, "Every breeze that was wafted our way brought evidence that you of the Southeast were going to do to the production of shell eggs what you had already done to the production of broilers."

Typical Development

What is happening in Randolph County, Alabama, is somewhat typical of what is happening or about to happen in other areas of the South.

Three years ago, commercial laying operations were either nil or insignificant. Today there are about 80,000 layers in 35 flocks ranging in size from 1,000 to 12,000.

"These figures are small when compared with those of some older poultry areas. But they are large enough to indicate we are on our way in the commercial egg business," notes Claude Moore, county agent.

Three years ago eight poultrymen launched the expansion movement in Randolph County. Today there are 35 of them.

Mr. Moore figures the local operators have better than $240,000 tied up in their 80,000 birds. Most of the financing is being done locally, but the high investment is causing local producers to feel their way along, he said.

Marketing is being done through a farmer cooperative.

"I figure that last year we grossed an average of about $6 each on our 80,000 hens for a total of $480,000. But our poultrymen netted an average of only 50¢ per hen for their labor, management and the use of capital—for a county total of $40,000," Mr. Moore said.

One of the reasons for farmers switching to poultry is their desire for another money crop, as in eastern North Carolina where many tobacco growers feel this way. Rising costs and falling profits of operating row and field crops are part of the situation.

In northern Alabama, there is another reason, as Mr. Moore points out. The same situation is true of other areas in the South, notably western North Carolina and Georgia.

Hilly land is unsuited for modern day farming and there is a need to utilize this land for some purpose. Chicken houses and laying lots fit in beautifully.

Randolph County also produces some broilers. Egg production fits into this picture and is indicative of other sections where broiler and egg production is becoming integrated.

Mr. Moore pointed out local egg producers are having to compete with other markets, too.

"We've got to take markets away from producers elsewhere. On this point, it seems that we here and poultrymen over the South are making headway. I understand that in one county in New Jersey—one of the real big commercial egg areas—about 1,000 of the 3,500 poultrymen went out of business last year. They

EDITOR'S NOTE: *Will the South become known more as a broiler-commercial egg area, not just a broiler area primarily? Renewed interest in layer operations is being reported in the Southeast as egg prices look encouraging. Extremely low prices caused some severe setbacks in some sections and, as in other areas, there were cutbacks in poultry operations. However, now there is said to be more interest in egg operations. This is the second of two articles on some of the recent poultry developments in Dixie as reported by hatcherymen, feed men and others in or allied with the industry.*

Minnesota manager reports on SHANZER grain drier

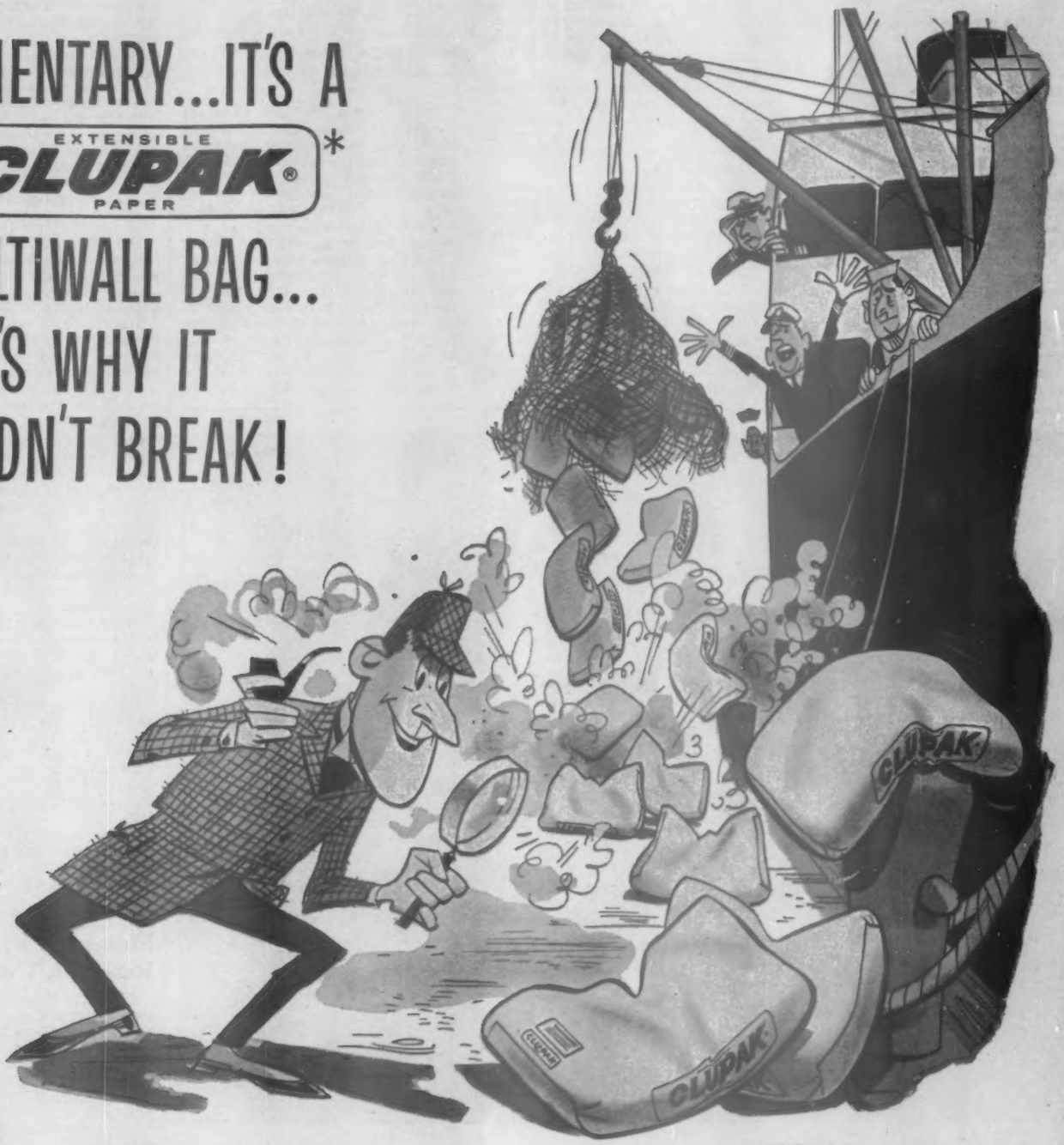
"I believe in staying with a good thing – that's why our second drier was another Shanzer! Season after season, the trouble-free, full-rated performance of these units, even on extremely wet grain, has certainly earned our respect."

–Says, W. H. Lenton, Manager Farmers Elevator Company, Inc., Stewartville, Minnesota.

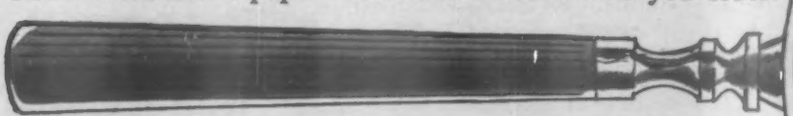
Get more for your drier dollar, see your Shanzer representative, or write:

SHANZER MANUFACTURING COMPANY
SUtter 1-5200
85 Bluxome Street, San Francisco, California

ELEMENTARY...IT'S A EXTENSIBLE CLUPAK® PAPER* MULTIWALL BAG... THAT'S WHY IT DIDN'T BREAK!



New CLUPAK extensible paper makes other papers old-fashioned . . . makes multiwall bags that stretch to take strain . . . absorb shock that causes bag damage. This increased toughness allows multiwall sack users to increase strength yet decrease the number of plies with resulting economies. Specify CLUPAK extensible paper multiwalls the next time you order.



You benefit three ways. One, you eliminate burst-bag waste, because CLUPAK extensible paper absorbs shock stretches instead of tearing. Two, you increase storage efficiency. CLUPAK extensible paper permits safe, clean, more compact stacking, less re-stacking. Third, you simplify on-the-job handling. Your workmen do not have to "baby" multiwalls made with CLUPAK extensible paper. The next time you order, say, "CLUPAK"... before you say paper.

*Clupak, Inc.'s trademark for extensible paper manufactured under its authority and satisfying its specifications. Clupak, Inc., 530 5th Ave., N. Y. 36, N. Y.

were no longer able to compete with egg producers elsewhere," Mr. Moore said.

"We've got the people, we are getting the know-how and we certainly have the need. All these things should add up to continued growth in the egg business," he said.

Developing Export Market

The Southeast is also developing as an export market, with Georgia taking the lead.

The export market was one of the principal reasons why efforts were made, and are being made, to form the Southeastern Egg Marketing Assn., according to Harold Ford.

The group is still in the formative stage and it is taking time to get it going, he said. This association has as its main objective the promotion and orderly marketing of eggs in the South. Mr. Ford is of the opinion there is a big market in Dixie alone, since the southern states have imported from other sections of the country a large percentage of eggs purchased.

Mr. Ford points out that it will be the objective of the association to develop Southern sales before even considering other areas, and also the export field.

Also listed as one of the potentials affecting the new trend toward layers is the rapidly increasing population in Dixie. With industry coming South and bringing more people with it, demand is naturally greater.

One of the larger and older hatcheries in Georgia is reportedly switching to layer operations and is planning to put 10,000 pullets out into houses each week until the desired number of hens is reached.

This company, the Durr Hatchery, of Atlanta, is typical of what some of the new thinking entails.

For years, Durr Hatchery has been a hatcher for the broiler industry and has stuck to that field. Now it is switching to commercial eggs.

In North Carolina, at Albemarle, is what some call the largest layer operation in the country.

The Lauder Co. there has approximately half a million layers, it is understood. Lauder employs full-time help.

Durrell Davis, southern editor of the Watt Publishing Co., Mt. Morris, Ill., recently told Dixie Poultry Institute members the South offers a wonderful opportunity to forge to the front in commercial production.

Egg production expansion, as it is found in the South, seems to lean toward new areas with new flocks. The larger changes have occurred in new districts, Mr. Davis said, and since the South already has much of the know-how it is in a good position.

"There is also the matter of cheaper production in the South's favor," he said. "It costs $2 per hen more to get started in the West. Also, the South can produce with uniformity and quality and compete with New England."

Equipment salesmen in the exhibition booths on two floors of the city auditorium at the Dixie Exposition were kept busy talking with potential egg producers. The floors were crowded from early in the morning until late at night with visitors.

It was also quite apparent at the exposition that sessions featuring talks on egg production were better attended than other meetings, which could be taken as an indication of increased interest in egg production.

In Tobacco Land

The equipment people say there also is a trend toward both egg and broiler production opening up in eastern North Carolina and South Carolina among the tobacco growers.

These tobacco farmers are looking for another source of income, they say, and are turning to the poultry fields. Since tobacco fields do not, as a usual thing, consume all of the acreage on a farm, the landowners have land upon which to build houses.

Still another factor affecting the ambitions of the South is the climate which will mean better production of eggs from hens.

There is little doubt but that the present market prices on eggs are encouraging the trend. If these prices continue to hold or advance, the trend will continue, it is felt. But if a drop comes, it may mean some will lose interest.

"There are always some people who will jump on the bandwagon of high prices and cool off in enthusiasm when the prices drop," one feed man said.

But, be that as it may, as Mr. Ford points out, the egg business looks brighter in Dixie today than it has in a long time, production-wise. Mr. Ford points out that many of the new operations are not small, indicating that money is being pumped into this field.

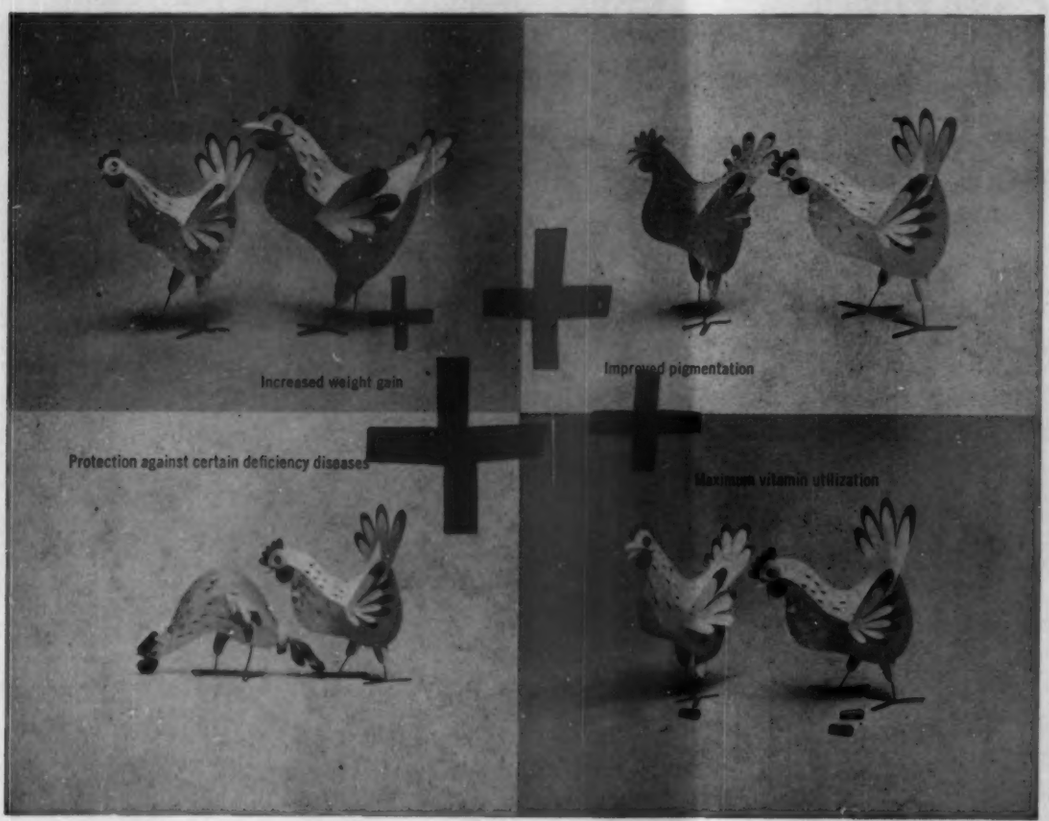
So it is entirely likely that the South may become a more important broiler-egg section rather than leaning so heavily on broilers as it has in the past.

Moorman Promotes Research Unit Chief

QUINCY, ILL.—Announcement of the election of Carl Sturhahn to serve as a director of the Bell Grain & Milling Corp., Pomona, Cal., and to also serve as a director of the Ambler Milling Co., San Gabriel, Cal., has come from E. H. Wilson, president of Moorman Mfg. Co. Both firms are wholly-owned subsidiaries of Moorman Mfg. Co.

Mr. Sturhahn is a graduate of the Gem City Business College. He started work in November, 1948, as a sales correspondent with Moorman, moved into market research in 1951 and since October, 1954, has headed that department.

He is a member of the Moorman advisory board and the sales planning committee.



Your feeds supply these extra performance factors when they contain Tenox BHT AGRICULTURAL GRADE

an Eastman antioxidant for feeds

Here are four sound reasons for incorporating Tenox BHT-Agricultural Grade into your feeds.

Tenox BHT protects the all-important vitamin balance you build into your feeds.

Tenox BHT improves pigmentation in poultry by increasing the utilization of Vitamin A.

Tenox BHT increases weight gain by maintaining maximum nutritional content right up to the time the feed is used.

Tenox BHT protects poultry against certain deficiency diseases.

Tenox BHT-Agricultural Grade is free-flowing, non-dusting, non-caking. Its particle size is similar to that of other feed ingredients. It blends quickly and does not separate during handling or storage.

Tenox BHT-Agricultural Grade was developed to meet the specific needs of poultry feed manufacturers. It is the result of information provided by feed manufacturers combined with our own extensive knowledge of antioxidant performance.

Build extra performance into your feeds by specifying the antioxidant specially made by Eastman for feed use...Tenox BHT-Agricultural Grade. Tenox BHT-Agricultural Grade is available from leading distributors throughout the country. To find out how you can use this antioxidant in your feed formulations, write today to EASTMAN CHEMICAL PRODUCTS, INC., subsidiary of the Eastman Kodak Company, KINGSPORT, TENNESSEE.

Tenox BHT-Agricultural Grade available in 2 forms

1. Tenox BHT (Conc.)-Agricultural Grade which may be added to your own diluent.
2. 25% Tenox BHT Premix, containing 25% BHT on a nutritive cereal carrier.

SALES OFFICES: Eastman Chemical Products, Inc., Kingsport, Tenn.; Atlanta, Georgia, 3133 Maple Drive N. E.; Chicago, 4200 Dempster St., Skokie, Illinois; Cincinnati, 1626 Carew Tower; Cleveland, 13212 Shaker Square; Detroit, 17320 West Eight Mile Rd.; Framingham, Mass., 65 Concord St.; Greensboro, N. C., 435 Jefferson Standard Bldg.; Houston, 1103 Prudential Bldg.; New York City, 260 Madison Ave.; Philadelphia, Fort Washington Industrial Park, Fort Washington, Penna.; St. Louis, 10 South Brentwood Boulevard. West Coast: Wilson & Geo. Meyer & Company, San Francisco, 333 Montgomery St.; Denver, 851 North Broadway; Los Angeles, 2060 South Garfield Ave.; Phoenix, 111 West Osborn Rd.; Portland, 1430 W. Clay St.; Salt Lake City, 573 East Broadway; Seattle, 318 Queen Anne Ave. Canada: Eastman Chemicals, Montreal, Quebec, 2143 St. Patrick St.; Toronto, Ontario, 41 Advance Rd.

Mix Your Own Brand for More PROFITS!

BROWER Whirlwind FEED MIXER

Use BROWER MIXER to blend in a good concentrate with local grains and you're all set to sell your own brand of feeds — step up your profits as much as $1.50 per bag! A BROWER MIXER whirls the ingredients instead of just stirring or tumbling; produces the most thorough mix obtainable . . . a perfect blend in about 10 minutes. Built to give years of trouble-free service. WRITE FOR FREE CATALOG!

BROWER MFG. CO.
625 N. Third St.
Quincy, Illinois

Research Compares Whole, Ground Milo For Fattening Pigs

COLLEGE STATION, TEXAS—Research conducted recently at the Texas Agricultural Experiment Station at College Station shows that grinding sorghum for pigs will pay off. The Texas tests, reported by department of animal science researcher Fred Hale in a recent bulletin, also show that pigs will digest more of the sorghum grain when it is self-fed than when it is hand-fed.

In the tests, the amount of feed consumed by each pig was known. Feeding was done in individual pens with a concrete floor and the pens extended seven feet beyond the outside walls of the barn. This equipment and method of feeding permitted the collection of data that cannot be obtained by group feeding.

Table 1, accompanying this article, shows that the whole grain that passes through the digestive tract of the pig furnishes no significant amount of nourishment to the pig.

Table 2 shows the number of times pigs eat and drink in a 24-hour period when the feeds are fed free-choice in self-feeders.

The fact that pigs make many trips to the self-feeder and take the time to chew the grain more thoroughly explains in part why less whole grain passes through the pig undigested when fed free-choice (3%) than where the whole grain is fed twice daily (10%).

After feeding 110 growing-fattening pigs in individual pens, the Texas results show that one will save about 3 lb. of grain by grinding 100 lb. when the whole sorghum grain is fed free-choice in self-feeders. When the grain is fed twice daily, one will save 10 lb. of grain by grinding 100 lb.

Kansas tests in 1941 show that grinding the Wheatland variety did not increase its efficiency as a feed. In the same report it is shown that 10.84 lb. of the Colby variety were saved by grinding 352 lb., which gives a saving of 3 lb. by grinding 100 lb.

Another Kansas report in 1955 on feeding whole and ground sorghum grain to pigs from a 52 to 220 lb. final weight shows 3.2 lb. of grain saved by grinding 100 lb. The feeds were self-fed in drylot.

These results confirm those obtained in the Texas experiments.

Soaked Grain

In the Texas experiments, it was found that it does not pay to soak the whole sorghum grain before feeding it to fattening pigs. The soaked feed had to be hand-fed, and more of the soaked grain passed through the pigs undigested than the dry whole grain.

It required about five times as much labor to soak and feed the grain twice daily as was necessary to feed the dry grain in self-feeders.

The Texas station obtained data on the kind of fat produced by pigs fed sorghum grain. These showed a melting point of 41 to 42° F. and a refractive index of 1.4584 to 1.4592 for back fat samples. The fat, therefore, was a hard fat since a refractive index of 1.4597 and below indicates a hard fat.

Observations were made on the number of times growing-fattening pigs go to the self-feeder to eat and to the water trough to drink during a 24-hour period in the summer at College Station.

The number of trips reported in Table 2 are averaged from 72 consecutive hours of observations. These trips were made from 5:20 a.m. to 8:20 p.m. The pigs were either sleeping, resting or just loafing about the pen from 8:20 p.m. to 5:20 a.m.

TABLE 1: Chemical Analysis of Whole Sorghum Grain Before Feeding and After Passing Through the Digestive Tract of the Pig

Composition	Before feeding whole grain, %	Whole grain recovered in feces after having been fed to pigs, %
Crude protein ...	10.92	11.62
Fat	2.53	2.18
Crude fiber	1.68	1.75
Nitrogen-free extract	72.85	73.61
Water	10.65	9.91
Ash	1.37	0.93

TABLE 2. Number of Times Growing-Fattening Pigs Ate or Drank in a 24-Hour Period

Number of trips made to grain compartment of self-feeder	14
Number of trips made to protein supplement compartment of self-feeder	9
Number of trips made to water trough ...	12

Researcher Named

ST. LOUIS—William C. Collins has been appointed to the marketing research staff of Doane Agricultural Service, Inc. Mr. Collins will be technical director of all marketing research services performed by Doane for companies selling to the farm market.

Mr. Collins returns to Doane, the organization with which he started his marketing research career in 1952, from Massey-Ferguson, Ltd., where he was manager of marketing and economic research for North American operations. For the past two years his responsibilities with Massey-Ferguson were in the areas of economic forecasting, marketing research, forecast coordination and company sales analysis. While formerly with Doane, he was instrumental in the establishment of the Doane Countrywide Farm Panel.

At the same time, Elmer Denis, manager of Doane's market research services, announced a change in the name of the division offering these services. The former research division will now be known as the marketing research division.

FEEDERS TOUR UREA PLANT

PRYOR, OKLA.—Thirty five cattle feeders from Iowa and Illinois recently toured the plant of the John Deere Chemical Co., Pryor. The cattlemen viewed the urea production facilities of the company and were guests of the firm at a luncheon. The visit was part of a tour sponsored by the Oklahoma Magic Empire Assn., a group of Oklahoma cattle raisers, who organized the tour to give feeder buyers an opportunity to visit some of the ranches of the state.

EGGSHELL BRAND
A HOPPER IN EVERY PEN!
AMERICA NEEDS
THIS ONE'S IN THE BAG!
It's the overwhelming favorite—the people's choice in the East, where EGGSHELL BRAND Oyster Shell year after year takes the lead over all other shells and substitute candidates.
And EGGSHELL BRAND keeps its promises . . . to remain pure, soft, clean and dust-free . . . to build the finest egg shells possible in this glorious land of ours.
EGGSHELL BRAND OYSTER SHELL
a product of
OYSTER SHELL CORPORATION
BALTIMORE, MARYLAND

FORTIFIED
FISH SOLUBLES
WITH MINIMUM 25% FISH GLANDULAR AND LIVER HYDROLYSATE ADDED
+ the Plus Factors
GUARANTEED YEARLY SUPPLY—AS NEEDED
Producers and Brokers
R. S. WILSON CO.
1206 MAPLE AVE. • LOS ANGELES 15, CALIF.

Blatchford's
ESTABLISHED IN 1909
'60 BONUS BONANZA!
NEW BIG PRIZES ON ALL PRODUCTS
$69.95 Elgin Watches!
Automatic Can Openers!
Melmac Dinnerware Sets!
Plus Other Bonus Prizes!
DEALERS! DISTRIBUTORS! NEW PROFIT OPPORTUNITY
WRITE TODAY! for your BONUS PRIZE BROCHURE!
Blatchford's
ESTABLISHED IN 1909

We started this job 36 years ago ...and it may not be finished yet!

Originally built in 1924, Ralston Purina's 600-ton-per-day feed plant in Kansas City has been enlarged and expanded nine times, the most recent addition being 835,000 bushels of grain storage.

All building work, including the original mill, warehouse, and offices, was designed, engineered and constructed by our organization.

Our engineers approach each job with the same "eye-to-the-future" thinking and experience. We would like to apply it to the design, engineering or construction of your next job, too. It can save you money and increase operating efficiency of your grain storage, feed plant, flour mill, or similar facility.

wh
WEITZ-HETTELSATER ENGINEERS
Division of The Weitz Company, Inc. • Des Moines
1911 BALTIMORE AVENUE • KANSAS CITY, MO. • BALTIMORE 1-3930

How Feed Men Advertise—Part 1

Survey Shows What Percentage Of Sales Is Put in Ad Budgets

By Al P. Nelson
Feedstuffs Special Writer

The other day I heard a newspaper advertising salesman say: "Compared to most other businessmen, the feed merchant does very little advertising."

What this salesman said is true about some segments of the feed industry and not true about others. There is a great variance in the percentage of annual dollar volume which feed firms spend for advertising.

This percentage often is governed by the type of feed business in which the individual is engaged. The regional feed manufacturer who may operate in a limited area with his own brand of feed, selling to 10, 20 or 40 dealers and working his own territory himself, will spend more for advertising, percentagewise, than will the owner of a local custom mill doing business within a radius of 20 miles of his base.

Several years ago, Dr. Henry Bakken, agricultural economist of the University of Wisconsin, with the cooperation of the Central Retail Feed Assn., made an advertising survey. It was found that advertising costs of feed firms varied from a low of .02 of 1% to 4.5% of sales. My own tabulations made from many interviews in seven midwestern and six eastern and southern states fall very closely into the percentage range cited by Dr. Bakken.

I have broken down my percentage findings as follows:

1. Feed manufacturer — This includes the regional feed manufacturer who has a number of dealers. He may spend up to 3.5% for advertising, due to the fact that he not only advertises in the local area he covers, but he also does cooperative advertising on a fifty-fifty basis with his dealers. He is likely to use more billboards, newspaper ad reprints, radio and direct mail advertising than a custom mill operator.

He regards advertising as a daily sales tool. He has a yearly advertising and promotion budget. It is usually carefully planned and tested. He keeps records on special ads and promotions that pulled for him. He may or may not have a full-time or part-time advertising and sales promotion man in his employ. He may handle advertising himself.

His margin of markup on his product is greater than that of the average feed dealer who sells a brand name feed, and so he has more to spend for advertising.

If the regional manufacturer is selling direct to customers over a wide area and has no dealers, then he may spend up to 4% for advertising and promotion, but this is the exception. Most try to stay between 2½ and 3%.

2. Custom mill operator—If this type of dealer does not make his own brand of feed, he is likely to be the poorest advertiser, in percentage terms, of all feed men. If he hits 1% it is a rarity.

Why? The busy custom mill operator has most of his customers come to his mill for service once a week or once every two weeks. The operator sees these customers often and figures he doesn't need to do much advertising, because he already has a lot of business to keep his mill busy.

The custom mill operator advertises sporadically when he thinks of it. He does not, as a rule, plan his advertising campaign, and usually does not budget.

With a few exceptions, his advertising copy shows little selling creativity. He relies heavily upon the newspaper mats furnished by his suppliers, provided the local newspaper ad solicitor can pry them out of him. And he usually likes a modest 4 by 5 in. ad space, if that much.

There are exceptions, of course. I found a few custom mill men with well planned ad programs, including direct mail and radio advertising. But they are rare.

3. Mobile mill operator—The average mobile mill operator spends 1% or more for advertising, and very little for feeder education meetings. Thus most of his advertising dollar is spent in newspapers, direct mail and radio.

The mobile mill owner is a newcomer in most feed areas. He constantly worries about the stationary mill. He has no store sales to help support him. He must depend on income from grind and mix charges, concentrate and molasses sales. And he needs to have a lot of batches per week to pay expenses and earn a profit.

So he advertises regularly as a rule for more new on-the-farm grind and mix customers, and he uses display advertising in the local telephone directory, whereas the custom dealer may not. If the mobile mill owner has too many customers for one mill and not enough to warrant operating a second mill, he may advertise heavily and consistently for new customers and will then add a second mill when he sees hope of getting enough customers. Newspaper advertising offers much to many mobile mill owners.

4. Hatchery owners—Quite a number of hatchery owners are alert to the opportunities that come with well planned advertising. Chick business is seasonal to a large extent, and this means the hatchery owner wants to

---

EDITOR'S NOTE: Over the past two years, Al Nelson has interviewed several hundred feed manufacturers, custom mill operators, hatchery owners, mobile mill operators and feed store owners. This series on how these businessmen advertise is the result of questions Mr. Nelson asked about sales promotion.

This first article, one in a series of five, goes into how much various types of feed manufacturing, sales and service operations spend on advertising.

Further articles in this series will discuss how feed men spend their advertising dollars, what they say in their ads, what forms of advertising they use.

SERVICE Ray Ewing PRODUCTS — Walt Krumbholz, The Lee Cook Co., E. 41 Gray Ave., Spokane, Wash., Riverside 7-8063

SERVICE Ray Ewing PRODUCTS — George Zeibel, 820 Mohigan St., Charlotte 5, No. Carolina, FRanklin 7-1805

SERVICE Ray Ewing PRODUCTS — BILL KIESER, FEED PRODUCTS, INC., 1370 11th Street, Denver 4, Colorado, AComa 2-5706

SERVICE Ray Ewing PRODUCTS — KENT EWING, 2690 E. Foothill Blvd., Pasadena, California

SERVICE Ray Ewing PRODUCTS — BUD COOK, The Lee Cook Co., 410 Lewis Bldg., Portland 4, Ore., CApitol 2-1913

SERVICE Ray Ewing PRODUCTS — ALAN BADER, P.O. Box 267, Ogden, Utah, EXport 4-9323

SERVICE Ray Ewing PRODUCTS — W. E. Thompson, THE TOMMY THOMPSON CO., 3617 Dryden Road, Fort Worth 9, Texas, WAlnut 3-0005

SERVICE Ray Ewing PRODUCTS — Jim Hourihan, 18 Sky-hi Drive, W. Seneca, N.Y., HObart 7493

SERVICE Ray Ewing PRODUCTS — EARL REEVES, 1133 Manheim Pike, Lancaster, Penn., EXpress 7-8164

SERVICE Ray Ewing PRODUCTS — Bill Thompson, THE TOMMY THOMPSON CO., 3617 Dryden Road, Fort Worth 9, Texas, WAlnut 3-0005

SERVICE Ray Ewing PRODUCTS — DON HUCKLE, C.F.D., P.O. Box 431, Binghamton, N.Y., RA. 3-3521

SERVICE Ray Ewing PRODUCTS — HANK WILDER, 539 East 2nd St., Ames, Iowa, CEdar 2-4668

SERVICE Ray Ewing PRODUCTS — Gary Ferguson, 533 67th Ave., N.E., Minneapolis 21, Minn., SUnset 4-2788

SERVICE Ray Ewing PRODUCTS — L. J. FOSTER, 540 East J Street, Ontario, California, YUkon 6-7624

We'll *PROVE* that PACO and NATICO are the finest 100% Dry Molasses Products on the market today!

PACO is the superior Molasses Distillers Dried Solubles — nutritionally sound, palatable to stock and just about the *best pellet binder* you can buy! Paco is the ideal fortifier to add to your feed formula, provides balanced protein, B-vitamins, essential minerals plus unidentified growth factors. Compare 'em all—you'll choose Paco!

NATICO is the richest dry molasses product available! Add it to your feed for more profitable production and more *economical feeding costs.* Natico is an all sugar cane molasses product, adds attractive new color and fragrance to feeds . . . even makes dry home-grown grains and roughages tastier to livestock. Try Natico and watch feeding costs go down!

PRODUCTS OF **PUBLICKER INDUSTRIES INC.**, 1429 WALNUT STREET, PHILADELPHIA 2, PA. • PHONE: LOCUST 4-1400

MIDWEST SALES AGENT—The North American Trading and Import Co., 101 Arsenal St., St. Louis, Mo. • Tel.: PRospect 6-0858

SHIPMENTS FROM PHILADELPHIA, PA. AND GRETNA, LA.

for *FREE* sample mail this coupon now

Let us prove Publicker's superiority in farm feeding products. Fill in coupon and attach to your company letterhead. We'll send you free samples of Paco and/or Natico . . . America's finest products for farm feeding!

Publicker Feed Products Division
1429 Walnut Street
Philadelphia 2, Pa.

F

☐ send Paco sample
- ☐ 2-oz.
- ☐ 2-lb.
- ☐ 10-lb.
- ☐ 50-lb.

☐ send Natico sample
- ☐ 2-oz.
- ☐ 2-lb.
- ☐ 10-lb.
- ☐ 50-lb.

NAME_____

COMPANY_____

ADDRESS_____

CITY_____ ZONE____ STATE_____

sell a lot of his chick output in a hurry, so as not to have overstock.

The output of the average hatchery must be sold far away from the home location, for a local market could not handle it. This means advertising in many newspapers and also direct mail and radio advertising. All this runs into money.

Hatchery owners in the past 10 years have become increasingly aware of the importance of making feed sales with starter chicks and of pushing feed to get the grower feed sales and perhaps continue with mash sales when the pullets begin to lay. So they have stepped up their feed advertising, too.

Considering that their chick markups are higher than what the average dealer gets on feed, hatcheries sometimes will have an ad budget which may run from 1-2% on the previous year's gross.

And since many hatcheries in the last five years have widened their lines with the establishment of poultry supply salesrooms, including garden and lawn fertilizers and many other farm supply items, they are spending more advertising dollars to push these lines.

The hatchery man usually calls in a professional printer or advertising man to help him prepare his two- and three-color chick folders each year. Some of this professional know-how rubs off on alert hatcherymen who keep their eyes open. That's one reason why most hatchery men publish ads which often have a professional touch.

5. Feed store owner—This is the fellow who has no grind or mix facilities—just a feed store on Main Street or close to it. He sells bagged feed, but will take bulk orders and have them delivered direct from supplier plant to his customers.

Such a store owner is behind the eight ball from a feed processing point of view. But he is often long on merchandising acumen. The better feed store owners put forth some excellent window and store displays. They have good store lighting and practice alert salesmanship. Owner and employees are likely to be uniformed.

Owners of such stores have to advertise constantly to get every customer they can. They rely for most of their sales on the person who buys one to five bags of feed at a time. They push seed corn, grass seeds, garden and flower seeds, and usually have sizable displays indoors and out of poultry and livestock feeding equipment.

Some feed store owners spend up to 2% for advertising. Others spend much less.

6. Farm supply store—This new type of store must be broadly defined. Some may have grind and mix service plus a modern retail store, where feed, flour, fertilizers, spray materials, twine, rope, electric fence controllers and a multitude of other items, including garden tractors and power mowers, are displayed.

Other farm supply stores have no grind or mix facilities, and thus resemble the feed store in classification No. 5 above. One difference between the feed store and the farm supply store is that the former's showroom is predominantly filled with feed and flour displays. The farm supply store has flour and feed displays, too, but shows a wide variety of other types of farm merchandising as well and may have grind and mix facilities also.

Because the farm supply store carries many items which have markups of 25 to 40% and more, some owners spend up to 2% for advertising and promotion. The average store owner spends less.

Classification Necessary

Thus it can readily be seen that when one speaks of the percentage amount spent for advertising in the feed industry, one must make clear which of the six classifications of feed sellers he has in mind. The advertising practices and the philosophy behind an advertising campaign are often very different for some of the above-mentioned categories.

But it can be said that as a whole the feed industry is generally lagging behind other industries in using advertising to promote sales and services. However, the surge of interest in advertising by some feed men in recent years can mean that the next five years will see considerable improvement in advertising copy and also in sales.

Stabilized Vitamins
report

The Vitamin Problem

Our aim will be to keep you posted.

The Permadry® Story

Some of the reasons behind the universal acceptance of "sealed-in" Vitamin A.

Vitamin A Superior in Coccidiosis Recovery

Experiments show importance of stabilized Vitamin A.

This is the first in a series of reports on the vitamin problem. Keeping an eye on published material, research work at the various universities, and user experience, we will try to present data of interest to nutritionists, chemists, purchasing agents and others responsible for feed quality. We invite your comments.

Before discovering PERMADRY, our research people worked with a variety of anti-oxidants, gelatin coatings, waxes and tallows. Our patented process which seals in the vitamin A in tiny beadlets of digestible fat has shown these advantages: (1) maximum stability in storage, handling, processing . . . even cubing and pelleting. (2) superior moisture resistance. (3) highest feed conversion ratios because PERMADRY offers excellent biological availability, has the highest amount of vitamin A-active material, and because the fat of the beadlet is itself a high energy nutrient. Future reports will discuss these factors in greater detail.

Recent studies at a leading Eastern university to determine the effect of Vitamin A in chicks artifically infected with coccidiosis reveal the following: the level of Vitamin A considered adequate under normal growing conditions did not promote growth at the same rate in chicks infected with coccidiosis; crystalline beta-carotene (with anti-oxidants) was not as effective as stabilized Vitamin A; storage of Vitamin A in the livers of infected chicks was much lower on the carotene diet than in those containing stabilized Vitamin A; recovery of surviving chicks as measured by growth and appetite, was increased as the level of Vitamin A was increased in their ration. Additional data on request.

Stabilized Vitamin Report #1

A basic source for all your vitamins, including: PERMADRY - vitamin A; PERMA-DUAL - double coated vitamin A; PERMA-D - vitamin D_2 and D_3; PERMA-E - vitamin E; PERMA-MIX - quality pre-mixes of vitamins and anti-biotics; PERMA-SOL - water soluble coated vitamin A; PERMA-COCKTAIL - water dispersible vitamins and anti-biotics.

One in a series of reports by

Stabilized Vitamins, Inc.

Telephone: PRescott 3-2800
Cable Address: Permadry - Teletype Pas No. 600

126 - 150 Monroe Street
Garfield, New Jersey

R/1

VITAMIN A

(Continued from page 19)

ging system with roof sprinklers available and used. The maximum dry bulb temperature in the cage house varied from 82° to 98° F. The relative humidity at the maximum dry bulb temperature varied from 39 to 57%. There were no obvious disease symptoms or other noticeable stresses during the depletion and test periods.

SUMMARY—A 12-week test on 19-month-old laying hens and 9-month-old pullets was conducted in order to study the effect of various levels of vitamin A. Egg production, feed conversion and various phases of egg quality were studied during this period. Liver samples were taken for analysis for storage of vitamin A during a six-week depletion period and the 12-week test period.

The treatments had no effect on egg quality characteristics, on egg production or on feed conversion.

There was a marked difference in the liver storage of vitamin A. The groups with 2,000 units of vitamin A from alfalfa meals showed a definite decline in vitamin A storage. The addition of 2,000 units of vitamin A from a stabilized source resulted in a slight increase in liver vitamin A values during the test period.

The addition of 6,000 IU of vitamin A from a stabilized source resulted in approximately five times as much vitamin A in the livers at the end of the test compared with the amount at the beginning.

NOTE: These investigations were sponsored by Hoffmann-La Roche, Inc., Nutley, New Jersey.

BAG FIRM SOLD

JACKSON, MISS.—The Langston Bag Co. of Mississippi has purchased the Mississippi Bag & Burlap Co. plant, located at Wesley and North Mills Streets, which has been inactive. Officials said production will begin immediately in the plant, which will be managed by Gene White. Production of the plant will consist mainly of cotton and burlap bags for seed, feed, fertilizer, oil meal and related uses.

CHOICE OF THOSE WHO WANT THE FINEST AT REASONABLE COST!
W-W ROLLER MILLS
HAMMER MILLS
W-W GRINDER CORP.
2957 No. Market, Dept. 311
Wichita 19, Kansas

Increase efficiency... reduce costs with...

Butler POLLYPHOS

Feed and mineral manufacturers are vitally interested in increasing efficiency and reducing costs in their manufacturing processes. With increased efficiency they produce better products . . . and at the same time are able to pass on . . . to their customers . . . these products at lower costs.

BUTLER CHEMICAL COMPANY accomplishes both of these factors for their customers. Through increased efficiency they reduce costs in producing the finest quality defluorinated phosphate . . . BUTLER POLLYPHOS.

As a result . . . BUTLER is able to deliver POLLYPHOS containing the highest phosphorus content — 19% — at the lowest cost per unit of phosphorus . . . to formula feed and mineral manufacturers.

Let us acquaint you with the cost-cutting advantages that POLLYPHOS can provide you with . . . in bags, or in bulk, in truck or in carload lots. Any of our sales agents or our sales division will be happy to answer your inquiry.

8804

Butler
CHEMICAL COMPANY

Sales Division: Esperson Building
Houston 2, Texas · Phone CA 2-9711

Plant & Warehouse: P. O. Box 605, Galena Park, Texas, Phone OR 2-7587

SALES AGENTS: Warner Brokerage Co., Inc., Minneapolis; Carroll Swanson Sales Co., Des Moines; James P. Sprigg Co., Los Angeles; White Star Concentrates Co., Portland; E. A. Towns Limited, Vancouver 1, B. C.; John Kuhni Sons, Provo, Utah.

Storage, Handling Problems as They Affect Grain Feeding Value

By Dr. Henry L. Fuller
University of Georgia

Problem areas in storage and handling of grain are chiefly moisture, foreign matter, and insects or microflora such as molds and fungi. Pests can be controlled by various pesticides and fumigants but these, in turn, may create problems of their own.

MOISTURE—Moisture is the principal enemy of safe storage because moisture increases chemical activity which, in turn, creates heat. According to Prof. Lloyd Smith of the University of Georgia Agricultural Engineering Department, the maximum moisture content for safe storage of wheat, grain sorghums and shelled corn is 12% when no forced air is used. The moisture content of No. 2 corn, which is the standard of quality for feed manufacturers, is 15.5%. Grains may be stored at this moisture content if measures are taken to reduce the moisture or temperature or both. This may be accomplished by moving the grain through the air or "turning" it, as is a common practice in many large commercial elevators, or by moving air through the grain. This is known as aeration and has many obvious advantages over the repeated handling of grain.

Even though the grain may be sufficiently low in moisture so that aeration is not necessary, there are certain other advantages to the use of forced air in stored grain. Aeration carries off heat, thereby maintaining maximum quality and also inhibits insect infestation. Entomologists tell us that many insects that normally inhabit grain reproduce slowly at temperatures below 60° F., become quite inactive at 50°, and extended periods of 40° temperatures will actually kill the insects by starvation due to inactivity. Aeration is not recommended as a substitute for fumigation but will assist materially in controlling insect damage. Molds and fungi are also considerably less likely to spread through grain which is properly treated and cooled. These organisms in themselves create considerable heat in their normal metabolic processes, and this is in addition to that created by the increased activity of enzymes in the grain itself as temperature and moisture increase.

MOISTURE AND NUTRITIVE VALUE—Too often farm-type dryers and small commercial dryers become impatient with the speed of the drying process and increase temperatures used to the point where damage to the nutritive value of the grain occurs. The results of a recent U.S. Department of Agriculture study show that drying at high temperatures lowered the nutritive value of the protein in corn. The higher the original moisture content, the greater the damage due to higher temperature (in the range of 67° to 190° F.). The temperature had no effect on the energy value of the corn, and there was very little loss of vitamin content. It also was shown that "wet" corn was just as high in nutritive values as was dry and, actually, there was a slight advantage for the "wet corn" in feeding tests with calves.

FOREIGN MATTER—While there are a number of plant materials which might cause concern to the feed manufacturers, there is only one which has caused any appreciable concern in this area in recent years and that is Crotalaria. This is a legume which has been recommended in the Southeast as a cover crop and soil builder, more true of North and South Carolina than Georgia.

Research at the University of Georgia under the direction of Dr. Schmittle at our Poultry Disease Research Center, has shown that the seed of Crotalaria spectabilis when fed to hens, caused a rapid drop in egg production, mortality, ruptured liver with internal hemorrhages and hydroperitoneum. Growing birds showed general symptoms of ill health, mortality, hydroperitoneum and surface hemorrhages on the liver followed by atrophy. One percent of the seed in the diet caused total mortality of chicks in four weeks. 0.1% caused some mortality and marked growth retardation, while 0.01% resulted in no mortality and no growth retardation. The symptoms are very much like those of the toxic fat syndrome which caused a great deal of unhappiness among poultrymen recently.

These results are in agreement with those obtained at Clemson. In addition, the workers at Clemson showed that the seed of Crotalaria striata were somewhat less toxic than spectabilis, although 5% of seed of this species in the diet caused a weight loss in poults and total mortality in chicks. With swine, 1% of C. spectabilis in the diet caused marked reduction in gains. They also measured the toxicity of 5% of this seed in cattle and sheep diets and found this level to be toxic to these ruminants.

The University of Georgia Extension Service has issued several releases, the first on Jan. 10 of this year and the second on April 7. In the latter release, a control program was outlined and eradication procedures recommended. These involve briefly: (A) Don't plant corn in fields where Crotalaria is found; (B) rogue out any that is found, and (C) use seed cleaning equipment in connection with combines or husker shellers. It is pointed out that harvesting the corn in the ear will, for the most part, eliminate the problem. It is only where corn is combined in the field that the Crotalaria seed becomes a problem. In addition to the extension releases, the Commissioner of Agriculture has issued a warning in his Market Bulletin of April 13, 1960.

INSECT DAMAGE—While insect damage lowers the grade of grain, it does not have the damaging effect on the nutritive value that might be suspected. However, since grain must be sold on grade, insects must be con-

EDITOR'S NOTE: In the accompanying article, Dr. Fuller discusses some of the problem areas in the storage and handling of grain. This article is from a talk by Dr. Fuller at the Georgia Feed Assn. convention. He is a professor in the poultry husbandry department at the University of Georgia, Athens.

can you identify this grain insect by its silhouette?

You've probably already guessed it's a saw-toothed grain beetle. Diamond Premium Brand Grain Fumigant "A" kills it fast . . . with certainty . . . at low cost.

It's fast because it quickly forms a heavy vapor that penetrates to remotest corners, fills every air pocket, blankets every kernel of binned grain.

It's certain because the vapor mixture has 100% active ingredients that kill adults, larvae and eggs, from top to bottom of bin.

Costs less because less gallonage is required per bin.

Safer, too, because it is nonexplosive and has no flash point. Premium Brand Grain Fumigant "A" has no effect on viability of seed grain . . . leaves no odor on grain, no taste, no unpleasant residue.

Details on request. Diamond Alkali Company, 300 Union Commerce Building, Cleveland 14, Ohio.

Diamond Chemicals

trolled, and the only sure method is to treat with pesticides or fumigants. When this is done properly there should be little danger from residues which will harm livestock. The Food and Drug Administration, in cooperation with USDA, has set up directions for use and tolerances.

CONTAMINANTS — The use of pesticides has resulted in a number of headaches for livestock people, even though the material is used according to the directions. Among those that have been found to be toxic to poultry are the following:

(1) Arasan is a sulfur-containing, dust fungicide which has been found by Minnesota workers to be toxic to both chicks and hens.

(2) Ceresan is a mercury-containing, dust fungicide which has also been found to leave toxic residue in grain. This proved to be a serious problem with one of our local mills a few years ago where grain presumably containing this fungicide was used in laying mash. The mash was found to be quite toxic, causing egg production to cease altogether, and the feed was analyzed and found to contain mercury, which is known to be quite toxic to animals.

(3) Pantogen is a mercury-containing, liquid fungicide which leaves a pink residue on the grain and, therefore, is easily detectable. Obviously, grain so treated should be avoided for feeding purposes.

(4) Bromides and carbon tetrachloride and certain others are the principal active ingredients of insecticides used in grain fumigation. Both methyl bromide and ethylene dibromide have been found to be toxic to poultry. Ethylene dibromide (EDB) is a component of an insecticide which has been extensively used in grains stored under government loan and recently has been the cause for a lot of unhappiness in this area.

Research has been conducted by the Marbut Milling Co., Augusta, Ga., by Clemson College and is now the subject of an extensive project under our direction at the University of Georgia. USDA is investing approximately $24,000 in this project.

In an eight-week preliminary test, we found that as little as 15 ppm. caused egg size to drop slightly when the chemical is fed directly. Egg production stopped entirely in four or five weeks with 200 ppm.

Caylor and Laurent, Marbut Milling Co., were among the first to publish work on this problem. This was reported at the Poultry Science Assn. annual meeting last summer and appears in abstract form in Poultry Science. They found that oats treated with EDB fumigant caused a drastic reduction in egg size when birds received as little as seven to ten ppm. of ethylene dibromide. It was found that corn treated with this fumigant retained very little, if any, toxicity. Aeration appears to remove the material from corn but not from oats.

As feed manufacturers you have no automatic protection from such toxic materials. The FDA spot checks grain moving in interstate commerce. Grain moving in intrastate commerce will not be checked unless the feed manufacturer becomes suspicious and asks to have it tested.

Annual Report Award

MINNEAPOLIS — General Mills has been selected for the first place award for issuing the best stockholder annual report of the milling and grain industry in the 20th Annual Report Survey sponsored by "Financial World," national weekly magazine. Symbolic of the achievement, a bronze "Oscar-of-Industry" trophy will be presented to the company.

Nearly 5,000 reports were reviewed in 96 categories during the 1960 competition.

Chairman of the independent board which made the selections is Dr. Joseph H. Taggart, dean, Graduate School of Business Administration, New York University.

Legislator Requests Egg Law Revision

HOPKINSVILLE, KY.—William F. Edmunds, Kentucky state representative, has requested Governor Combs to seek changes in the state's controversial egg law while a special session of the legislature is being held.

The representative favors amending the law to allow retailers to sell ungraded country eggs in the same or adjoining county, provided the eggs are marked as ungraded.

He said, "Unquestionably this law imposes hardships on the farmer who produces only a few eggs for sale. I think the governor would be wise to include a revision in the egg law among the subjects to be considered at a special session."

Mr. Edmund, a Hopkinsville attorney, said he will propose an amendment to the law which has drawn wide criticism since its passage last spring.

"This change would still accomplish the original purpose of the law and would relieve the hardship imposed on farm people who produce only a limited number of eggs for sale at local grocery stores."

He said the law was passed primarily to prohibit large out-of-state egg producers from bringing great quantities of ungraded eggs into Kentucky for sale. The law as passed by the last legislature requires that all eggs sold in retail groceries be graded by licensed inspectors.

BUILDING OPENED

ASHLAND, ORE. — The Grange Cooperative of Southern Oregon, with headquarters at Central Point, recently opened a new $100,000 facility here. The tilt-up concrete building is 120 by 74 ft. Included in the building are: A retail store and office plus grinding, cleaning and treating service. The building is so constructed that patrons drive into the building for loading.

New Feeder Cattle Benefit from Pasture

URBANA, ILL.—University of Illinois tests show that newly arrived feeder cattle placed on good pasture outperformed similar cattle placed in drylot.

Livestock extension specialist D. E. Walker reports that the University bought 70 calves in August, 1959. All calves weighed about 400 lb.

Twenty of the calves were immediately turned onto 10 acres of new legume-grass seeding. The remaining 50 received good-quality legume-grass silage in drylot. Workers continued this program for two months.

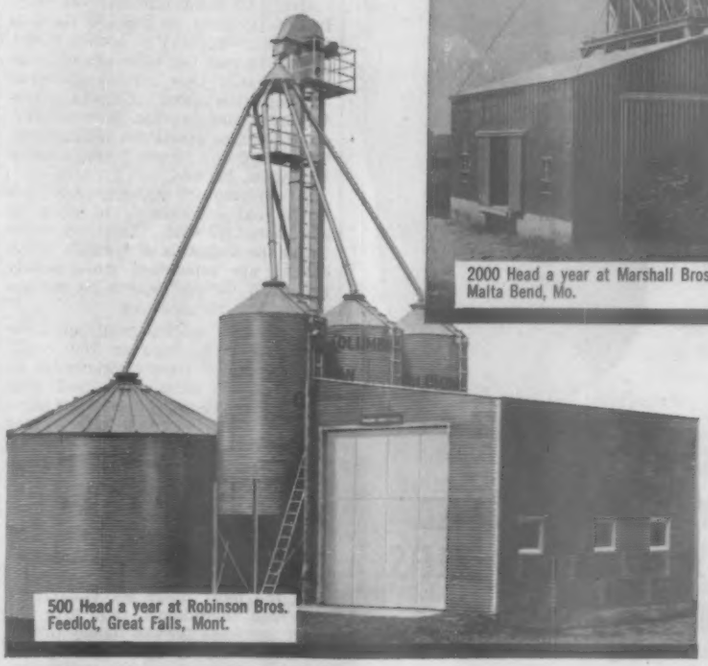
Results showed that 20 of the drylot calves developed shipping fever. Another 12 developed foot rot. Gains above pay weight averaged 42 lb. per head.

On the other hand, no shipping fever or foot rot occurred among the pasture calves. And their gains above pay weight averaged 70 lb. per head.

LARGE or SMALL...

"Push-Button Feeding" is Most Profitable...

2000 Head a year at Marshall Bros., Malta Bend, Mo.



500 Head a year at Robinson Bros. Feedlot, Great Falls, Mont.

with BULK FEED EQUIPMENT and BOLTED STEEL TANKS

MASTER-CRAFTED BY COLUMBIAN

Whether your plans call for feeding 2000 head of cattle a year, 200 or even fewer, Columbian can help you reduce costs, get extra gains per pound of feed and increase profits with efficient, economical "push button" bulk feeding.

Compact, soundly engineered bulk feed installations employing master-crafted Columbian Bulk Feed Tanks, Big Bins, Tall Tanks and feed handling equipment, will let one man do the work of several and do it better. The size of the installation, its capacity and facilities, can be tailored to your present operation—and easily expanded in the future.

Typical of economical Columbian installations is the Robinson Brothers Feedlot, where 500 head of cattle are fed out each year. The equipment consists of two 4400 bu. Columbian AAA grain bins, used for storage and three 990 bu. Columbian bulk feed tanks with center drawoff, all connected by a single elevator leg. A scalehouse for measuring feed proportions completes the set-up. Roger H. Dunlop of Great Falls, Columbian recommended contractor, designed and installed this set-up.

More elaborate is the Marshall Brothers Bulk Feeding operation at Malta Bend, Mo., where total storage capacity in 4 Columbian Tall Tanks is close to 40,000 bu. and 4 Columbian Bulk Feed Tanks supply feed to the central mill where feed is crimped, ground, blended and mixed. The mill is housed in a Columbian Rigid Frame Steel Building.

If you are planning on bulk feeding, write to Columbian for free information, outlining your plans and requirements. We will be glad to advise you and put you in touch with Columbian recommended contractors in your own area.

COLUMBIAN STEEL TANK CO. P.O. Box C-4013 Kansas City, Mo.

Member, American Dehydrators Association; Associate Member Grain and Feed Dealers National Association

STEEL, Master-Crafted by Columbian ... First for Lasting Strength

We do contract steel fabrication

Pathologist Says Broiler Condemnations Result from Carelessness by Grower

By Special Correspondent

STORRS, CONN.—Condemnations of broilers result from careless management on the part of the grower, not the caprice of a federal inspector, Dr. Jerry Roundtree, pathologist for the Lipman Poultry Co., Augusta, Maine, told Connecticut poultrymen at their annual evening meeting Sept. 15 at the University of Connecticut.

"If the flock is healthy, the inspector is not going to throw out many birds," he said.

There are many things which may cause condemnations, but their number can be cut to a workable level, he said. Diseased birds were somewhere along the line exposed to stress.

"The stress may have been caused by leaving the windows closed when they should have been open or open when they should have been closed, or by starting the chicks in unsanitary conditions or in a cold building," Dr. Roundtree said. "These conditions break down the resistance of the birds to organisms which could have been resisted in a more comfortable environment."

The cure starts with the breeder birds. Chicks should be started in a clean hatchery and should go into a clean building, he said.

Growers seldom have two problem flocks in a row. Trouble leads them to take energetic steps to scrub and scour their houses and to take special precautions during the growing period, he noted.

"The grower must be interested in his birds and their health," Dr. Roundtree said. "He must want to raise healthy birds. The independent grower has enough incentive. But the contract grower needs a program of incentives to raise healthy birds.

"Environmental control and sanitation can reduce the amount of antibiotics needed and the need for vaccination. Vaccination programs should be planned so as to fit the specific operation."

In a nutshell, both Dr. Roundtree and Dr. John Hammond, O. A. Newton & Sons, Bridgewater, Delaware, stressed good husbandry as the poultryman's answer to healthy and economic production.

"Loving care and observation," was the phrase Dr. Hammond had for it. He credited the success of Delaware's integrated growers to careful training of servicemen and emphasis on good solid husbandry.

Disease Program

Dr. Hammond outlined his company's program to prevent diseases from catching hold in broiler flocks. To insure that the birds are developing normally they receive plenty of "loving observation." Careful attention must also be given to such everyday things as sanitation, vaccination, ventilation and proper preparation of the coops, he said.

"A servicemen's training school has made real servicemen out of mere salesmen," he said. "They are careful in the diagnosis of diseases. Servicemen are supervised more closely and must fill out reports on the operations of the growers.

"To back up this program, integrators are paying for the result servicemen get from their clients instead of the amount of feed they sell. Incentives to producers and servicemen have increased returns per bird among many of the producers."

Dr. Hammond presented figures in the accompanying table to illustrate his point.

There are other factors which provide economies in the operation of the broiler layouts, he said. An effort is made to grow the chick which will give the most meat per dollar, and the feed ingredients that give the most nutrients for the money invested. Delaware also has home grown grains for feed. Otherwise transportation costs would be rather prohibitive.

Needs Economic Reason

"A grower should have a good economic reason for using a medicine," he said. "Delaware growers are not encouraged to use medicaments unless a good solid reason for their use is apparent."

According to Thomas C. Morrison, extension agricultural economist at the university, the state's broilermen made more money this year than last, 1½-2¢ a pound more since Jan. 1. Some 21% fewer growers than in 1959 will be growing 20 million birds. The 1956 peak was 32 million.

Mr. Morrison told the poultrymen that too much effort had been made to change things beyond the control of the industry. "Poultrymen have learned instead to live with change. Many have met the competition head on and have expanded. Many will continue to make a living in the industry."

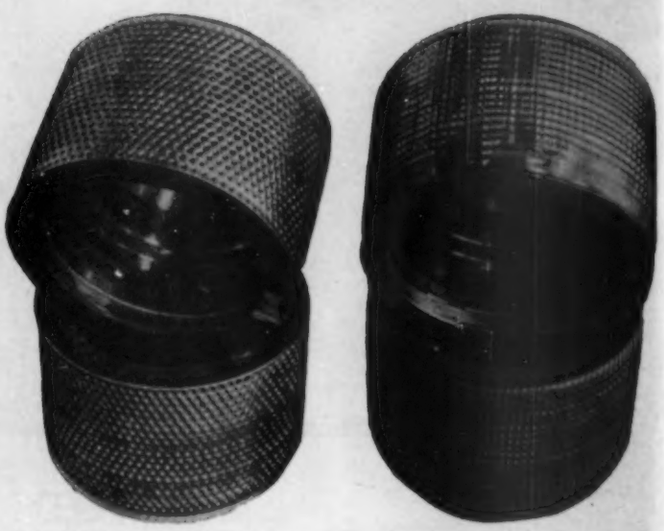
Influence of Incentives

	—All flocks sold in June— Wt.	Feed	Mort.	Cost
1958	3.35	2.59	2.56	18.23
1959	3.55	2.53	2.36	16.72
1960	3.71	2.41	1.59	15.73
Increase	+.36	—.18	—.97	—2.50
Growers	+.20	—.06	—.20	—1.51
Servicemen	+.16	—.12	—.77	— .99

Incentives—20 good growers	Wt.	Feed	Cost
1958 guarantee	3.39	2.48	17.70
1959 incentive	3.49	2.38	15.53
Difference	+.10	—.22	—2.37

DISCUSS PROGRAM—Dean W. B. Young, left, College of Agriculture, and William A. Aho, right, extension poultry specialist, listen as Dr. John Hammond, second from left, and Dr. Jerry Roundtree, discuss the program at the recent poultrymen's meeting at the University of Connecticut, Storrs. Both Dr. Hammond and Dr. Roundtree spoke on the program.

COMPARE ...and SAVE!



LANDERS DIMPLE-FACED ROLLER

CORRUGATED ROLLER

EACH OF THE ABOVE ROLLERS PRODUCED 3000 TONS OF THE SAME FORMULA PELLETS

. . . the conclusion is simple. The corrugated rollers on the right have started to wear on the outside edges which means that the die has stopped pelleting through the outside holes. The Landers Dimple-Faced rollers on the left are still able to deliver many more tons of pellets. Shouldn't you make this comparison in your own mill?

LANDERS MILL MANUFACTURING COMPANY

LANDERS MACHINE COMPANY

207 EAST BROADWAY
FORT WORTH, TEXAS

WRITE TODAY FOR COMPLETE INFORMATION

LANDERS • 207 E. BROADWAY • FORT WORTH, TEXAS

S-R

NAME_____TITLE_____

FIRM_____

ADDRESS_____

CITY_____STATE_____

TYPE OF PELLET MILL USED_____

To Sell North Dakota Salt in Upper Midwest

MINNEAPOLIS — Evaporated salt from deep caves being hollowed near Williston, N.D., for storage of natural gas will be sold throughout the upper Midwest by offices and grain elevators of Cargill, Inc.

M. D. Wyard, in charge of commodities merchandising for the farm products firm, said bagged and block salt for livestock, water softening, meat packing, baking and other industries will be stockpiled at Port Cargill near Savage "for short-haul service to the Twin Cities and long-haul delivery to farm and industrial users in surrounding territories."

Supplies carrying the "Perx" trademark of Dakota Salt & Chemical Co. are now arriving by rail and truck from that firm's new plant at Williston, Mr. Wyard said. The $2 million installation, the first evaporated salt plant built in the U.S. in 15 years, processes and packages iodized, trace mineralized, sulphurized, cobalt iodized, phosphorus fortified, water softening pellets and other salt varieties. Cargill will handle every type except table salt, which will be distributed in Minnesota and surrounding states by the Dakota firm.

Manager Named for Multiwall Bag Plant

ST. LOUIS—Appointment of Shelton J. Jones as manager of the St. Louis plant of West Virginia Pulp & Paper Co.'s multiwall bag division has been announced by Victor S. Luke, division manager.

Shelton J. Jones

Formerly plant production manager, Mr. Jones succeeds Allen G. Woodruff, who resigned.

Starting at the Charleston, S. C., mill in 1952 as a special projects engineer, Mr. Jones helped develop extensible paper which was introduced by the firm more than two years ago. He transferred to the St. Louis plant in 1959.

The St. Louis plant employs about 150 persons and produces up to 230,000 multiwall bags per day.

Pfizer Dedicates New Laboratories

GROTON, CONN. — The newest and largest scientific research center of Chas. Pfizer & Co., Inc., was dedicated here Oct. 6.

Macrobiological, chemical and biochemical research units, formerly housed chiefly in the company's Brooklyn, N.Y., laboratories, have been consolidated in the modern, 177,000 sq. ft. Pfizer Medical Research Laboratories on a 19-acre landscaped site overlooking the Thames River, adjacent to the firm's production facilities here.

Pfizer spokesmen said that opening of the new research center represents a major step forward in "consolidating scientific studies offering broad potential for medicine, agriculture and industry."

It was on a nearby site at Groton, they noted, where Pfizer scientists during the past decade made some significant findings of value to agriculture and other fields. In this connection, vitamin A and antibiotic work of importance to agriculture was cited.

"One of the many functions of the new Groton research center will be laboratory studies on compounds that may well find use in agriculture," officials said. "As in the past, when such compounds hold promise, they will be sent to the firm's agricultural research and development center near Terre Haute, Ind., for field application and testing with farm animals."

Formal opening of the new medical research laboratories attracted nearly 1,000 research scientists, educators, physicians, government officials, drug industry executives and others.

Among those taking part in the dedication program were Dr. Irvine H. Page, director of research, Cleveland Clinic Foundation; Gov. Abraham Ribicoff of Connecticut; John E. McKeen, president and chairman of the board of Pfizer, and Jasper H. Kane, the firm's vice president of research and development.

The day-long dedication program featured tours of the laboratories and the company's nearby production plant. The laboratories house some 400 scientists, technicians and supporting personnel.

Mr. McKeen called it a privilege and a duty for industry to initiate and sustain large scale research. "Corporations do not discover anything," he said. "But corporations can and do provide enabling facilities for man's creative gifts, furnish incentives and give a vigorous, stimulating environment for the probing human mind."

NEW LABORATORIES—An aerial view of the new medical research laboratories of Chas. Pfizer & Co., Inc., in Groton, Conn., adjoining the company's production plant. The three-story steel and concrete research building contains 177,000 sq. ft. and houses macrobiological, chemical and biochemical research departments. The laboratory activities will include work on compounds which may find use in agriculture.

Virginia Feed Industry Leader Dies at 90

RICHMOND, VA. — Announcement of the death of A. Reid Venable, 90, senior partner in Carter-Venable Co., has come from the firm.

A. Reid Venable

Mr. Venable died Oct. 2 and his funeral services were held Oct. 4 at Grace-Holy Trinity Episcopal Church, with interment in Hollywood Cemetery, Richmond.

Mr. Venable's entire business career was spent in the seed and feed industry. He was born in Prince Edward County July 4, 1870. As a young man, Mr. Venable came to Richmond and became associated with the firm of S. T. Beveridge & Co.

In 1911, he formed Carter-Venable Co., which was among the pioneers in the feed manufacturing industry in Virginia, and conducted a seed business of international scope.

Push-Button Mill Offers Customized Pelleting

OTHELLO, WASH.—The new Interstate Livestock Feeder Cooperative plant, a push-button pelleting operation offering customized rations, is opening for business.

The automated plant, located near Othello, can prepare any formula ration for all classes of livestock. Different formulas are obtained simply by adjusting dials on the measuring and weighing equipment.

The plant will produce from 5 to 15 tons of pellets an hour, say officials, depending on the formula used. Once the batching equipment is set to the desired formula, the rest of the operation is handled automatically.

In addition to producing custom pellets, the cooperative plans to start a cattle feeding operation. Facilities for 5,000 head of cattle will be constructed within the next two years in a location near the feed plant.

Officers of the newly organized cooperative, including 25 members, are John Schluneger, Colfax, president; Ed Jumas, Pullman, secretary; D. E. Phillips, Lind, vice-president, and Claude Campbell, Warden, treasurer.

NEW and only with the Ultra-Life Program

—helps promote full capacity milk production!

"Balanced Digestibility"

A fistulated cow serves as a living laboratory and feed samples are inserted into the rumen through the hole to learn more about ruminant feeding and the digestion process.

The "Artificial Rumen" technique which duplicates the digestion process of live dairy cattle

Ultra-Life Feed Manufacturers build better Dairy Feeds with the New "Artificial Rumen Technique"

By testing the digestibility rate of the roughage, pasture, silage, grains, formula feeds, — Ultra-Life nutritionists now add correct amounts of certain feed ingredients which speed up the rate of digestion of your dairy feeds, increasing the nutritive value of the entire ration. This makes a firm friend of the dairyman, means additional customers and more business for the feed manufacturer.

Invariably popular with dairy herd owners, BALANCED DIGESTIBILITY testing is bringing new customers and increased business to Ultra-Life feed manufacturers.

BALANCED DIGESTIBILITY testing is just one more feature of the Ultra-Life Program — the service that helps you build and sell better feeds.

Ultra-Life Laboratories Inc.
East St. Louis, Illinois

Without obligation, send me further information about the Ultra-Life Profit Proved Plan for my Brand Name Feeds.

Name .....

Address .....

City ..... State .....

Take the first step — inquire today!

Ultra-Life LABORATORIES, INC.

Main Office and Plant, East St. Louis, Illinois

One of the Country's Oldest and Largest Manufacturers of Vitamin and Trace-Mineral Products

Complete Cereals Processed Specially For Pet and Small Animal Foods

★ TOASTED CORN FLAKES ★ KIBBLED CORN
★ TOASTED WHEAT FLAKES ★ KIBBLED WHEAT
★ CORN GRANULES ★ KIBBLED PREMIXES

(Straight or Mixed Shipments)

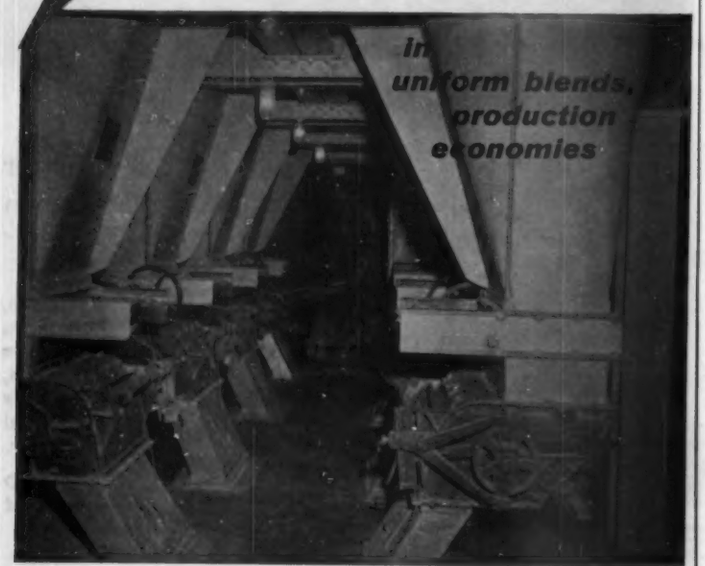
Carloads — Truckloads — LCL — LTL

LAUHOFF GRAIN COMPANY

PHONE HI 2-1800 — *Cereals of Quality Since 1862* — Danville, Illinois — TELETYPE 7261

★ Buy and Sell Through WANT ADS ★

DRAVER MIXING PAYS OFF



ACCURATE—Set to feed ingredients in the specified proportions, Dravers continue with a repeating precision action to feed those proportions in a steady, uniform stream. Even "hard-to-handle" materials are fed with consistent, high accuracy.

FLEXIBLE—With a free-flowing, accurate discharge at any rate within wide capacity ranges, Dravers easily produce a number of formulas on a single system.

ECONOMICAL—Original cost of Draver Feeders is modest; operating costs are low; and sturdy Dravers operate year after year, with almost no maintenance or repairs.

Whether you mix continuously or in an automatic batch system, these trade-proved Draver advantages will pay off for you in consistently uniform blends, produced at low cost.

There are over 100 standard sizes and models of Draver Feeders for feeding or proportioning from 3/100 to 2,000 cubic feet per hour. Write for Catalog 806 and recommendations on your specific requirements without obligation.

GUMP

B. F. GUMP CO.

Engineers and Manufacturers of Equipment for the Milling Industry

1310 South Cicero Avenue, Chicago 50, Illinois

SALES AND SERVICE

New York 36—JABEZ BURNS AND SONS, INC.—600 W. 43rd St.
San Francisco 5—TEMPO-VANE MFG. CO.—330 First Street
Dallas 2—J. B. WILLIAMS—1026 Young Street

Hog, Broiler Feed Ratios Down Slightly

WASHINGTON — Farm commodity-feed price ratios as a whole weren't quite as favorable in September as they were in August. September hog-corn and broiler-feed ratios were under the month before, but ratios for other animals, eggs, milk and other dairy products gained ground or held steady. (See table for detailed comparisons.)

The index of prices received by farmers rose 1% during the month ended Sept. 15 to 237% of its 1910-14 average, the U.S. Department of Agriculture reports. Higher prices were recorded for dairy products and eggs, while prices declined for meat animals and commercial broilers.

Prices paid by farmers for farm production items averaged slightly higher from Aug. 15 to Sept. 15, but averaged unchanged for other index components.

USDA reports prices paid by farmers for feeder and replacement livestock averaged about 2% higher than a month earlier. This increase followed four successive monthly declines. Prices for manufactured feeds averaged unchanged during the reported period. (See feed price table.)

Feed: Average Prices Paid by Farmers, U.S., Sept. 15, 1960, with Comparisons

Commodity and unit	Sept. 15, 1959	Aug. 15, 1960	Sept. 15, 1960
		—dollars—	
Alfalfa hay, baled, ton	29.4	30.0	30.5
Other hay, baled, ton	26.4	28.1	28.6
Cottonseed meal, 41%, cwt.	3.97	4.05	4.04
Soybean meal, 44%, cwt.	4.12	3.98	4.01
Bran, cwt.	2.70	2.80	2.79
Middlings, cwt.	2.85	2.91	2.88
Corn meal, cwt.	3.19	3.15	3.12
Scratch grain, cwt.	3.86	3.84	3.83
Laying mash, cwt.	4.37	4.30	4.29
Poultry ration costs, cwt.	3.35	3.32	3.31
Broiler growing mash, cwt.	4.75	4.62	4.61
Turkey growing mash, cwt.	4.69	4.60	4.59
Chick starter mash, cwt.	...	4.76	4.76
Mixed dairy feed, under 29% prot., cwt.	3.61	3.61	3.61
Mixed dairy feed, over 29%, cwt.	4.34	4.35	4.38
Mixed hog feed, 14 to 18%, cwt.	4.00	3.91	3.93
Mixed hog feed, over 29%, cwt.	5.20	5.09	5.13
Cattle feed, 30% and over, cwt.	4.25	4.25	4.25
		—Index numbers— (1910-14=100)	
Feed, prices paid by farmers	195	193	193

Farm Commodity-Feed Price Ratios

	U.S.	New Eng.	Mid-Atl.	East North Cent.	West North Cent.	South Atl.	East South Cent.	West South Cent.	Mount.	Pac.
CHICKEN-FEED—										
Farm Chickens:										
September, 1960	3.6	3.9	4.5	3.9	3.6	3.8	3.7	3.3	3.4	2.9
August, 1960	3.6	4.0	4.5	3.9	3.4	3.7	3.6	3.4	3.4	3.0
September, 1959	2.8	3.4	3.7	3.0	2.4	3.3	3.4	3.1	3.2	2.7
Average (1949-58)	5.5									
Average (Sept., 1949-58)	5.1									
Broilers:										
September, 1960	3.5	3.9	4.5	3.7	3.8	3.4	3.3	3.4	3.9	3.9
August, 1960	3.6	3.9	4.5	3.8	3.8	3.5	3.4	3.5	4.0	4.2
September, 1959	3.2	3.5	4.3	3.6	3.5	3.2	3.0	3.1	3.6	3.7
TURKEY-FEED—										
September, 1960	7.4	7.9	8.5	7.8	8.8	6.6	6.9	7.4	7.2	6.6
August, 1960	7.2	7.7	8.5	7.2	8.7	6.5	6.9	7.0	7.1	6.2
September, 1959	6.7	6.7	8.1	7.0	7.7	6.1	6.7	6.6	6.6	6.2
Average (1949-58)	8.4									
Average (Sept., 1949-58)	8.1									
EGG-FEED—										
September, 1960	11.7	14.8	13.5	10.6	10.5	12.5	11.7	11.6	11.6	10.4
August, 1960	10.3	14.3	12.0	9.3	9.0	11.3	10.4	10.2	10.7	9.1
September, 1959	9.9	12.7	10.9	8.8	8.8	10.4	10.6	10.0	11.0	8.6
Average (1949-58)	11.1									
Average (Sept., 1949-58)	12.1									

	U.S.	North Atl.	East North Cent.	West North Cent.	South Atl.	South Cent.	West
MILK-FEED—							
September, 1960	1.51	1.48	1.47	1.61	1.61	1.56	1.41
August, 1960	1.41	1.40	1.36	1.49	1.54	1.45	1.33
September, 1959	1.50	1.53	1.40	1.58	1.63	1.56	1.41
Average (1949-58)	1.30						
Average (Sept., 1949-58)	1.35						
BUTTERFAT-FEED—							
September, 1960	24.8	...	20.4	27.4	...	17.0	18.7
August, 1960	24.2	...	19.9	26.7	...	16.6	18.5
September, 1959	25.0	...	20.6	27.5	...	16.9	19.1
Average (1949-58)	22.2						
Average (Sept., 1949-58)	22.2						

	U.S.	North Cent.
HOG-CORN—		
September, 1960	14.7	15.2
August, 1960	15.3	15.6
September, 1959	12.2	12.5
Average (1949-58)	14.0	14.3
Average (Sept., 1949-58)	14.2	14.5

NOTE: Ratios computed at mid-month by U.S. Department of Agriculture. Ratios represent number of pounds of poultry feed equal in value to 1 lb. live farm chicken, turkey or 1 doz. eggs; pounds broiler growing mash equal to 1 lb. broiler; pounds concentrate rations equal to 1 lb. milk or butterfat; bushels of corn equal to 100 lb. hog. Increases in ratios are favorable to the feeder.

KEY TO GEOGRAPHICAL DIVISIONS

Here is a guide to the states included in the geographical divisions listed in the accompanying commodity-feed price ratios:

New England: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut.

Mid-Atlantic: New York, New Jersey, Pennsylvania.

North Atlantic: New England and Mid-Atlantic states combined.

East North Central: Ohio, Indiana, Illinois, Michigan, Wisconsin.

West North Central: Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas.

North Central: Combination of the two foregoing.

South Atlantic: Delaware, Maryland, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida.

East South Central: Kentucky, Tennessee, Alabama, Mississippi.

West South Central: Arkansas, Louisiana, Oklahoma, Texas.

South Central: Combination of the two above.

Pacific: Washington, Oregon, California.

Mountain: Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Montana.

West: Combination of the two above.

FEED MILL REOPENS

SALTILLO, MISS. — The Wesson Bros. Feed Mill, closed since last April due to the death of John Wesson, has reopened here, specializing in all kinds of livestock feed, custom grinding and mixing. T. A. Wesson, owner, grinds mostly corn and hay, getting his supplement from Modern Mills, Jackson, Tenn., and Dixie Feed Mills, Memphis.

P/S

Serving the Great South

Prompt Service with Famous Feed Materials from Memphis Stocks

Fast delivery of leading vitamins, antibiotics, growth factors and other feed materials from our Memphis stocks is only part of the way we can serve you . . . let us help with your formulations, registrations and other problems.

For Prompt Service—Order from Either Office

Joe N. Ploss Co.
219 Adams - P.O. Box 2654
MEMPHIS 2, TENN.
Phone JA 6-6411

•

Ploss and Stringer
345 Glynn Drive
BIRMINGHAM 15, ALA.
Phone VE 3-9709

The Feed Man's Library

Reader Service Department

Feedstuffs

FEEDS AND FEEDING, 22nd Edition

By Frank B. Morrison and Associates

Feeds and Feeding has again been entirely revised, because of the many discoveries made in nutrition and livestock feeding. In this 22nd edition, particular emphasis is placed on the new developments. The numerous experiments are summarized which have dealt with antibiotic, arsenic and surfactant supplements, and with hormones, including stilbestrol. Full information is given concerning requirements of various classes of stock for the vitamins, including B and the unidentified factors. The Appendix Tables are enlarged by 40%, with composition and digestible nutrients of 1,100 feeds..... **$9.50**

ANIMAL NUTRITION, 4th Edition (1956)

By Leonard A. Maynard

It covers the standard, constantly-needed facts on feeding farm animals and also the newly discovered facts about how certain acids, minerals, vitamins, etc., can help in raising healthier, more productive animals. 474 pages, 77 illustrations and tables **$8.00**

BEEF CATTLE, 5th Edition

By the late Roscoe R. Snapp and A. L. Neumann

Covers breeding, feeds, feeding, economic trends, equipment, etc. Includes a report of hundreds of feeding experiments. Has a special chapter on sterility by Dr. Harry Hardenbrooks, Jr., assistant professor of veterinary Medicine, University of Illinois. 641 pages **$8.50**

1958 SMALL MILL SHORT COURSE

Feed Production School, Inc.

A complete transcript of the 1958 Small Mill Short Course designed specifically for the Small Mill, Concentrate Mixer and Custom Miller. Covers such subjects as Receiving and Preparation, Mixing, Packing, Storing and Shipping, Typical Mill Layouts, Pelleting and Dust Collection **$5.00**

1959 SMALL MILL SHORT COURSE

Feed Production School, Inc.

Transcript of Proceedings of the 1959 Small Mill Short Course containing subjects of particular interest to the smaller miller. Subjects include cost facts, experience and research reports with practical recommendations on production methods in pelleting, costs and economics of building formulas, operating portable units and other related subjects..... **$5.00**

PELLETING AND RELATED SUBJECTS

1959 Feed Production School Transcript
Feed Production School, Inc.

A complete report on specialized research projects, current practices and recommendations in successful Pelleting and Related Subjects. 198 pages of the most up-to-date information presented by recognized authorities including helpful charts, tables and equipment illustrations..... **$15.00**

RAISING LIVESTOCK

By Walter H. Peters and G. P. Deyoe

This book provides the owner, manager or caretaker of farm or ranch with easily found, specific suggestions for solving problems confronted in producing, handling and managing livestock, including preparing for market, selecting, feeding, housing, breeding and marketing influences. It tells of the many jobs to be done and exactly how to do them. 519 pages, 240 illustrations..... **$6.00**

DAIRY CATTLE FEEDING and MANAGEMENT, 4th Edition

By H. O. Henderson and Paul M. Reaves

Based on the original work by Carl W. Larson and Fred S. Putney. Expanded 10%, the Fourth Edition adds new chapters on minerals and vitamins, and much recent material on hay-crop silage, grass land farming, dairy cattle health programs, and digestion in the rumen and milk secretion. Designed for use profitably by the student and the practicing dairyman. 614 pages..... **$6.50**

SWINE SCIENCE, 2nd Edition (1957)

By M. E. Ensminger, Ph.D., State College of Washington, Head Department of Animal Science

A complete yet easily understood reference for swine feeders, breeders and those in auxiliary services to them. Covers history and development of the industry, its distribution, adaptation and future; types and breeds, establishing the herd, meat type breeds, selection and judging, breeding, feeding, grains and high energy feeds, protein, vitamin and milling by-product feeds, pastures, buildings and equipment, health and disease prevention, marketing and slaughter, management and showing. 543 pages, 192 illustrations..... **$5.30**

SWINE FEEDING AND NUTRITION (1957)

By T. J. Cunha, Department of Animal Husbandry and Nutrition, University of Florida

A new text for feeders, teachers of animal husbandry and their classes, county agents, nutritionists and workers in veterinary pharmaceuticals. Dr. Cunha is head of the Department of Animal Husbandry, a member of the Nutrition Committee of the American Society of Animal Production and the Swine Nutrient Requirements Committee of the National Research Council. The book includes reports on the most recent scientific feeding studies on swine. 300 pages, 47 tables, 46 illustrations **$5.00**

SWINE PRODUCTION, 2nd Edition (1956)

By W. E. Carroll and J. L. Krider

A guide to organization, establishment, management, feeding and marketing operations in raising of hogs. 496 pages, 95 illustrations.... **$7.50**

RAISING SWINE—

By George P. Deyoe

A practical swine raiser's handbook. Stock selection, record keeping, feeding, care and handling, marketing techniques and preparing pork for home use. 447 pages, 201 illustrations, 40 tables **$6.95**

THE HANDBOOK OF FEEDSTUFFS (1957)

By Rudolph Seiden and W. H. Pfander

An encyclopedic presentation of production, formulation and medication. Designed to increase feed efficiency, explaining thousands of terms. Valuable to ranches and farms in production of feeds from right crops, utilization of plant as pasture, silage, hay, etc., and as an officially recognized feed product (meal, bran, grit, cake, etc.). Explanations and practical advice on medicated feeds, mineral feedstuffs, trace elements, growth stimulants and chemicals of importance to stockmen and poultry growers. Useful to feed manufacturers, nutritionists, students of animal biology, etc. 660 pages, 175 illustrations, cloth binding **$9.00**

THE STOCKMAN'S HANDBOOK (1959)

By M. E. Ensminger, M.S., M.A., Ph.D.

Intended for stockmen, those who counsel with stockmen and for teachers in animal agriculture. Of particular interest to the feed trade is a section on breeding and feeding of livestock. Other chapters have to do with judging, management, marketing, etc. The 1959 edition is an extensive revision of the first edition, published in 1955. The 668-page book has 625 charts, tables and illustrations. A practical handbook **$8.75**

MANAGING FOR GREATER RETURNS in Country Elevator and Retail Farm Supply Businesses

By Richard Phillips, Iowa State University economist

Written as a basic reference book for elevator and farm store managers, this book includes valuable information on over-all planning and management. Some of the topics included are planning for maximum business efficiency, use of an effective accounting system, increasing employee productivity, improving customer relations, improving purchasing, management of credit and operation of custom services. 500 pages **$7.00**

SCIENTIFIC FEEDING OF CHICKENS (1955)

By Dr. H. W. Titus

A small but absolutely authentic and concise treatment of vital information for feeders and feed manufacturers. 43 formulas for diets and mashes, vitamin content of over 60 feedstuffs; what feedstuffs are best; deficiency diseases; also relationship between feed consumption and egg production. 297 pages, hard binding **$4.00**

MARKETING POULTRY PRODUCTS, 5th Edition (1960)

By Earl W. Benjamin, James M. Gwin, Fred L. Faber and William D. Termohlen

This revised fifth edition of a book with a 35-year history focuses new attention on the transformation in the organization and structure of the egg and poultry marketing system. Detailed information is contained on improved methods of processing, quality control, materials handling and distribution which have affected egg and poultry marketing in recent years..... **$7.75**

FEEDING POULTRY, 2nd Edition

By Gustave F. Heuser, Professor, New York State College of Agriculture, and the School of Nutrition

Meets the needs of poultry producers, feed dealers and poultry students for the latest authoritative information on how to raise the best poultry by employing modern feeding methods. It evaluates findings on the value of feeds, types of feed to be used and nutritive economy. Deals with feeding and management for various purposes, chicks, breeders and egg producers. 632 pages... **$7.95**

POULTRY NUTRITION, 4th Edition Revised and Enlarged

By W. Ray Ewing

1,500 pages, 133 illustrations of practical, factual information for feed manufacturers, feed dealers, hatcherymen, breeders. New chapter on antibiotics, new growth charts, feed formulas for rapid growth..... **$12.50**

POULTRY HUSBANDRY, 3rd Edition

By Morley A. Jull

526 pages, 254 illustrations, covers all aspects of the poultry business, from planning and building poultry plant to preparing poultry products for market. Breeding techniques, feeding procedures, disease control, incubation; it is an "encyclopedia" of poultry raising **$6.50**

POULTRY PRODUCTION

By Leslie E. Card, Ph.D.

Eighth Edition, 416 pages, 216 illustrations and four plates. Deals with broiler production, flock management and marketing, breeding and selection, nutrition, disease control, etc. **$5.00**

HATCHERY OPERATION AND MANAGEMENT

By Ernest F. Funk and M. Richard Irwin

New, 1955; a practical guide to hatchery operation for the experienced and inexperienced. Covers all phases of the business, including advertising, selling, office procedure, labor costs, equipment, chick selection, sexing, etc. 250 pages, well illustrated **$7.50**

SUCCESSFUL POULTRY MANAGEMENT, 2nd Edition

By Morley A. Jull

447 pages, 186 illustrations, based on practical experience, brings practical helps for choosing breeds, increasing broiler and egg production, building range shelters, estimating egg output, buying feed, candlings eggs, etc. **$6.95**

KEEPING CHICKENS IN CAGES, 4th Edition (1956)

By Roland C. Hartman, Editor Pacific Poultryman, and Dale F. King, Dept. of Poultry Husbandry, Alabama Polytechnic Institute

A thorough revision of this reliable work on cage laying plants. Newly illustrated and broadened in scope with addition of Professor Dale F. King as co-author. More about feeding-results of experiments with caged layers. The importance of protein and energy levels for the highly bred producing stock. 304 pages, 176 illustrations, cloth bound..... **$5.00**

TURKEY MANAGEMENT, 6th Edition (1955)

By Stanley J. Marsden and J. Holmes Martin

A text on turkey raising and marketing by Stanley J. Marsden, Poultry Husbandman at the U.S. Research Center, Beltsville, Md., and J. Holmes Martin, Head of the Poultry Department, Purdue University. Covers breeding, rearing, feeding, preparation for the market, shows, diseases and their prevention and control. 1,000 pages, 124 illustrations **$7.00**

THE FEED MIXERS HANDBOOK, 2nd Edition (1956)

By Ross M. Sherwood

A text for feed mixers with special reference to the nutritional aspects of feed formulation. A practical handbook for practical men. 286 pages, cloth bound **$3.25**

No. C.O.D.'s

ORDER FROM

Reader Service Department
Feedstuffs
P.O. Box 67
Minneapolis 40, Minn.

Illinois Feed Men, Poultry Group Set Joint Convention

CHICAGO—Final plans are being drawn up for the Illinois Feed Assn. and Illinois Poultry & Hatchery Federation annual joint convention to be held at the Springfield (Ill.) Armory Nov. 2-3, according to Carl Rylander, Kauffman Feed Mill, Waterman and Emil Garcia, Haag Hatchery, Breese, general convention co-chairmen.

The program committee, headed by LeeRoy Jackson, Jr., Jackson Feed Mill, Jacksonville, and Don Young, DeKalb Agricultural Assn., DeKalb, has announced the following speakers for the two-day event:

W. E. Glennon, president, American Feed Manufacturers Assn., Chicago, will be the keynote speaker, using the topic: "Road Maps Are Not Free." He will be followed by Raleigh Solomon, assistant vice president and farm department manager, Citizens National Bank, Macomb, speaking on "Financing Today's Farmer."

The subject of credit will be discussed by Paul Baichly, Ralston Purina Co., and Ted R. McGuire, Federal Intermediate Credit Bank, both of St. Louis.

"The Future of Grain Banks" is the title of an address to be given by Dr. John W. Sharp, department of agriculture, Ohio State University, Columbus.

Ralph Everett, sales counselor, Miami, Fla., will conduct a two-day sales clinic, and Dave Livingstone, Washington, Iowa, will be the breakfast speaker.

A full program of activities is being planned for the wives of the delegates.

One hundred exhibitors will demonstrate their products and services to the 1,200 delegates expected to attend, according to the announcement.

Report on Dairy Cow Tranquilizer Use

STILLWATER, OKLA.—The tranquilizer chlorpromazine failed to influence the milk production of dairy cows under conditions of an Oklahoma Experiment Station test, it has been reported here.

The tranquilizer, fed orally at a range of levels, had no apparent effect on feed consumption, rumination and certain other essential bodily functions during the period of tranquilization.

Chlorpromazine was not found in the milk or blood at periods of 7 and 19 hours after administration. The tranquilizer was found in the urine.

E. E. Quinn C. E. Taylor

E. E. Quinn to Head Minneapolis Exchange

MINNEAPOLIS—E. E. Quinn, vice president, Benson-Quinn Co., was elected president of the Minneapolis Grain Exchange, representing commission merchants, succeeding Allan Q. Moore. Mr. Quinn has been a member of the exchange board of directors since 1950.

Allan L. Burdick, president, Burdick Grain Co., was elected vice president, representing shippers.

Directors reelected for two-year terms were: C. H. McCarthy, president, McCarthy Bros. Co., representing commission merchants; Stuart F. Seidl, vice president, Rahr Malting Co., representing malting interests; R. L. Searles, broker, representing futures; E. J. Barry, vice president, Farmers Union Grain Terminal Assn., representing terminal elevators; P. Norman Ness, vice president, International Milling Co., representing futures, and the new director, Cecil E. Taylor, assistant secretary and manager grain department, Bay State Milling Co., representing milling.

Members of the board of arbitration reelected for two years were F. H. Murrin, representing buying and W. C. Olson representing selling.

Members of the board of appeals elected for two years were M. R. Walsh, representing buying and E. C. Bergfalk representing futures.

Gossypol Elimination Aim of Cotton Study

WASHINGTON—The U.S. Department of Agriculture and the National Cottonseed Products Assn. have developed an agreement under which the association will provide a fund of $5,000 to aid cotton breeding research to eliminate gossypol from cottonseed.

Gossypol, a chemical toxic to some farm animals, is contained in glands normally present in all cultivated and commercially-grown cotton varieties. It must be chemically inactivated or removed from cottonseed meal before it is fed to swine or poultry.

Although the substance, which reduces oil quality, can be removed in processing cottonseed oil or meal, scientists of USDA's Agricultural Research Service believe it more practical and less costly to develop and grow commercial varieties of cotton that do not contain the glands that secrete gossypol.

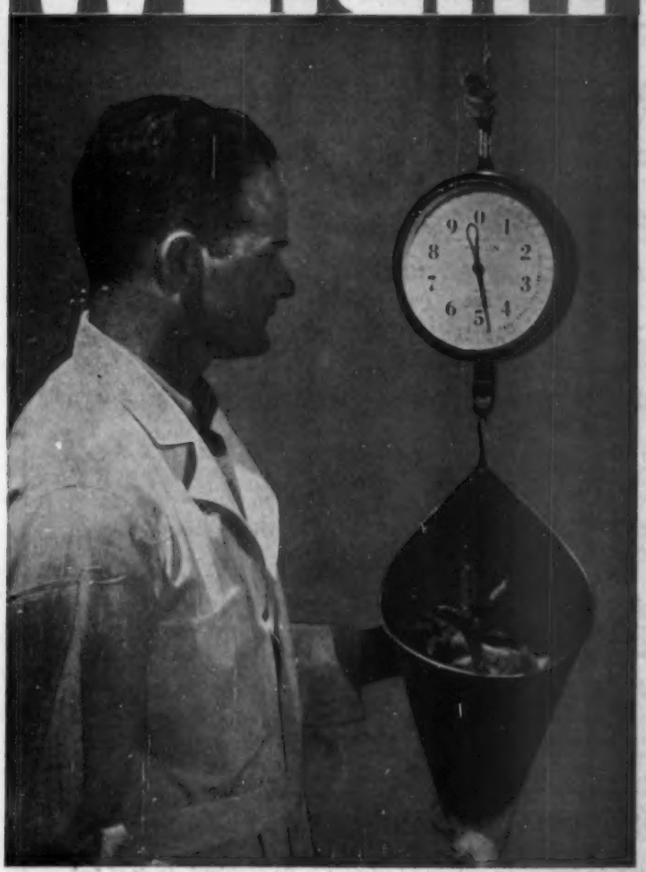
Geneticists at the cotton field station in Shafter, Cal., have succeeded in developing in cultivated cottons some glandless plants and several strains possessing very few glands. These were bred from a primitive cotton cultivated for centuries by the Hopi Indians.

Tests have shown that seed meal from the new strains of cotton is an excellent and wholesome source of protein for swine and poultry. Also, cooperative research between ARS and state scientists has shown that oil from seed containing only small amounts of gossypol has superior color and grade.

The funds provided by the National Cottonseed Products Assn. will help speed the combining of the glandless character in the Hopi cotton derivatives with high fiber quality and other desirable characteristics required in commercially acceptable varieties, it is reported.

we're putting on

WEIGHT



3/10 lb. per year at 8 weeks

No breeding plateau here! We work continually with promising crosses to find new ways to improve the *three* basic lines which produce your Peterson Males. Then we put our breeders to the final test . . . we select them on their performance in the laying house and on the performance of their offspring *under commercial conditions right on our own farms.*

We *know* what our birds can do. We're not only putting more weight on the Peterson Male, we're putting more weight on millions of broilers — wherever broiler men and processors have discovered the advantages of a Peterson Cross. Better see that your broilers are sired by this year's Peterson Male . . . it's the best breeder cockerel we ever produced.

PETERSON breeding farm

DECATUR, ARKANSAS

BRANCHES: GUILFORD, CONN., GAINESVILLE, GA. AND THORNTOWN, IND. FOREIGN DISTRIBUTORS: LE FOEIL, FRANCE, BARCELONA, SPAIN, MILAN AND FORZASO, ITALY

Texas Study Shows How Ruminants Digest Carbohydrates

COLLEGE STATION, TEXAS — "Because of the inherent physiological peculiarities of the ruminant gastro-intestinal tract, as compared with that of mono-gastric animals, there are major differences in the manner in which nutrients are digested," reports Paul F. Parks, research assistant in the department of biochemistry and nutrition at the Agricultural and Mechanical College of Texas.

In an article in the Texas Feed Service Report, Mr. Parks explains that the presence of a multitude of micro-organisms in the rumen is the major cause of this difference in assimilation.

It is common knowledge, he says, that these micro-organisms are capable of furnishing the ruminant high quality protein from a nitrogen source, such as urea, and energy from fibrous materials such as grasses and hay.

One of the more intriguing phases of ruminant digestion is concerned with the metabolism of the carbohydrate portion of the diet, says Mr. Parks.

Energy Requirements

Complex carbohydrates, such as cellulose and starch, are converted to short-chain fatty acids by the organisms which inhabit the rumen.

Various workers have estimated that 40 to 75% of the daily energy requirement of the animal is supplied by these acids. "In view of present knowledge, it would not be hazardous to assume that nearly all of the energy required by the ruminant is supplied in this manner," Mr. Parks reports. "What makes this even more amazing is the fact these acids are not passed on down the digestive tract as are other nutrients, but they are absorbed directly into the blood stream through the wall of the rumen.

"The three major organic acids produced are acetic ($C_2H_4O_2$), propionic ($C_3H_6O_2$) and butyric ($C_4H_8O_2$). These acids appear to be absorbed in proportion to the relative amounts produced in the rumen. In general, acetic acid is the major acid found in the rumen; however, large amounts of propionic and butyric also are present, the respective molar proportions being approximately 65, 20 and 15%.

"As stated, these acids pass directly into the blood stream via the rumen epithelium and are transported to the liver of the animal.

Function of Liver

"Here, another significant event occurs. Propionic and butyric acids are metabolized by the liver and enter the pathways of glucose synthesis; that is, they furnish useful energy to the animal for muscular activity, proper functioning of vital organs, growth and fattening. Most of the acetic acid passes unchanged through the liver and is subjected to indiscriminate, uncontrolled oxidation by nearly all tissues of the body," says Mr. Parks.

The energy produced by this type of oxidation is not useful, but is that energy which is largely lost from the animal body in the form of heat and contributes to heat increment.

One of the most perplexing problems in ruminant biochemistry since the turn of the century is the high heat increment associated with ruminant digestion and metabolic processes. Early workers in this field found that 30 to 60% of the metabolizable energy was lost in the heat increment.

The work of D. G. Armstrong and K. L. Blaxter (1957, 1958) in Scotland went far in explaining this problem. These men and their co-workers found that when the acids were fed individually to grazing animals at production levels, the heat increment was: Acetic, 67 calories per 100 calories; propionic, 44 calories per 100 calories, and butyric, 38 calories per 100 calories. When a mixture of the acids containing 75% acetic was fed at production level, the heat increment amounted to 68 calories per 100 calories. When this ratio was approximately reversed, giving a mixture containing 80% butyric, the heat increment was only 42 calories per 100 calories.

"It is apparent that diets which favor the production of propionic and butyric acids at the expense of acetic acid would tend to be more efficient for growth and fattening," says Mr. Parks. "However, feeds which produce high amounts of acetic acid will increase the fat content of milk from the lactating animal."

J. C. Shaw (1959) and his co-workers at the University of Maryland were able to vary the acetic acid content of the rumen from 50 to 68%, on a molar basis, simply by varying the composition and physical form of the ration. The pelleting of forages decreases the amount of acetic acid produced by these feeds in the rumen.

"A knowledge of the mechanism which controls the relative amounts of these acids produced in the rumen would be an extremely valuable tool in future advancements made by the feed and livestock industries," concluded Mr. Parks.

Representative Named

SPRINGFIELD, OHIO — Leo Eddleman has been appointed service and warehouse representative of the Buckeye Incubator Warehouse in Russellville, Ark., according to Jack Hill, vice president, sales, Buckeye Incubator Co. here.

Mr. Eddleman is a former hatchery manager and maintenance supervisor. In his new position, he will handle Buckeye mechanical feeders, general poultry equipment and incubator repair parts. In addition he will be in charge of all service on incubators and mechanical feeders for Arkansas and will maintain a complete line of spare parts.

$34 BILLION INDUSTRY

AUBURN, ALA. — Agricultural business in the South is a $34 billion industry and it employs half of all the workers in the area, according to a report from Auburn University.

MOBILE EQUIPMENT AT ITS BEST!

ONE-MAN OPERATION
ONE POWER UNIT
(GAS OR DIESEL)
Write For Details

THE B&L MOBILE

BARNARD & LEAS Manufacturing Company INC.
CEDAR RAPIDS, IOWA

TESTS ON CHICKS SHOW THAT

Vitamin A

STRENGTHENS THE BARRIER AGAINST INFECTION

Mucous membranes lining the gastrointestinal and respiratory tracts are the primary barriers which prevent the entry of infective agents into the body proper. Vitamin A is critically involved with the defense mechanism of the mucous membrane. Adequate vitamin A keeps the mucosa healthy, enables the chick to resist infection. Insufficient vitamin A renders the chick liable to infection through both respiratory and intestinal membranes.

Why are liver stores of vitamin A important?

Reserves of vitamin A are the essential safety factor against stress. Reserves are stored in the liver, but only after other tissues are adequately supplied. Therefore, when chicks show good liver storage, it is a sign that other tissues are saturated with vitamin A.

The most effective vitamin A supplement: Nopcay® Type V

Test after test has shown that preformed vitamin A such as Nopcay Type V produces very high liver storage. This means that it protects the mucous membranes and helps combat infections such as chronic respiratory disease and coccidiosis.

Adequate vitamin A stored in the liver is an indication that other tissues are fully supplied. For example...
Respiratory membranes, where vitamin A helps combat colds, nutritional roup, air sac infection (CRD).
Intestinal membranes, where vitamin A helps strengthen the barrier against coccidiosis, Capillaria worms, intestinal enteritis.

SUPPLEMENT YOUR FEEDS WITH NOPCAY TYPE V BECAUSE IT CONSISTENTLY BUILDS UP HIGH LIVER STORAGE LEVELS OF VITAMIN A AND THUS ASSURES THE MOST EFFECTIVE PROTECTION TO ALL OTHER TISSUES

NOPCO

NOPCO CHEMICAL COMPANY

General Offices: 60 Park Place, Newark, N.J.
Plants: Harrison, N.J. • Peoria, Ill. • Richmond, Calif.

Basic producers of Micratized® Vitamins A and D, niacin, calcium pantothenate, choline chloride, and other products

☆ Classified Ads ☆

Classified advertisements received by Tuesday each week will be inserted for the issue of the following Saturday. Rates: 20¢ per word; minimum charge $3.00. Situations wanted, 15¢ a word; $2.25 minimum. In figuring cost of your classified ad . . . each word, abbreviation, telephone exchange and number, set of initials, or group of figures counts as a word. To the number of words in your want ad itself add six (6) words for your name and address or name and address of your firm. This applies for both direct-reply ads and for blind ads containing a box number. If an ad is keyed, care of Feedstuffs, 35¢ per insertion additional charged for forwarding replies. Commercial advertising not accepted in classified advertising department. Display advertising accepted for insertion at minimum rate of $12.00 per column inch. No discount on ads ordered for more than one insertion. All Want Ads cash with order.

MACHINERY FOR SALE

ONE NO. 7 DOUBLE SCREENED EUREKA separator; two 10 bu. Wichkan grain scales in original crates. J. E. Hagan Mill Machinery, P. O. Box 574, Jefferson City, Mo.

FOR SALE—ONE 10 HORSEPOWER AND one 7½ horsepower General Electric 1740 RPM electric motors. Dr. Macdonald's Vitamised Feed Co., Inc., 540 Hawkeye Avenue, Fort Dodge, Iowa.

FOR SALE—BULK TRUCKS AND TRAILERS, both combination and hopper type. Excellent condition. Available immediately. Air discharge. 12 to 20 ton capacity. A good buy. Call or write Central Soya Company, Inc., Fort Wayne, Indiana. Telephone No. Anthony 2441, Extension 258.

FOR SALE—ENCLOSED MOTORS; RICHardson scale; truck scales; hammermills; oat crimpers; horizontal and upright feed mixers; sewing machines; elevator legs; screw conveyors; molasses mixers and pellet mills. J. E. Hagan Mill Machinery, Box 574, Jefferson City, Mo.

ALL STEEL BULK BOX AND TRUCK— Simonson combination (bulk and bag) box, one year old, automatic, 7-8 ton capacity, 12 ft. body. 1953 truck in A-1 condition, like new, cheap if taken at once—$2,300. Call or write Sleepy Eye Poultry Clinic, Sleepy Eye, Minn.; SWift 4-4651.

1959 DAFFIN MOBILE MILL, POWERED by G.M.C. 4-cyl. diesel, air unloading and the works. Like new condition. 20" Iowa portable mill, mounted on 1957 2-ton Chev. truck, powered by G.M.C. diesel, 2-ton vertical mixer and molasses blending equipment. Meeers Mfg. Co., Windom, Minn.

LIQUIDATION

GRAIN PLANT
OMAHA, NEBRASKA

10—Nordyke 2-roller mills, 10x36, 10x42.
6—Horizontal germ reels.
8—Allis-Chalmers degerminators.
3—Allis-Chalmers interplane grinders.
2—French oil screw extraction presses.
8—Forster hammermills, 75 & 100 H.P.
1—Jay Bee No. 4D hammermill, 75 H.P.
2—Bonnot 7'x40' rotary dryers, ¼" shell.
6—Davenport No. 2A Dewatering presses.
1—Stedman 36", 3-row cage mill.

Also—screw conveyor and bucket elevators, pumps, steel bins and tanks, dewatering screens, filters, welders, pipe, structural steel, etc.

SEND FOR CIRCULAR
PERRY EQUIPMENT CORP.
1403 N. 4th St. Philadelphia 22, Pa.
POplar 3-3505

MACHINERY FOR SALE

FEED MIXER, 1-TON CAPACITY, GUARanteed first-class throughout, 5 H.P. motor drive. Address Ad No. 3479, Feedstuffs, Minneapolis 40, Minn.

CHAMPION MOBILE GRINDER AND mixer mills. Champion Portable Mill Co., 2106 Como Avenue S.E., Minneapolis 14, Minn.

WHIRLAWAY AIRBLAST CAR LOADERS, cast iron pulleys, new and used feed and elevator equipment. Hagan Mill Machinery, P.O. Box 574, Jefferson City, Mo.

1951 DAFFIN CAB OVER CHEVROLET truck. New motor. Priced to sell rather than trade-in. Donald C. Wilson, Nelson, Nebraska.

MACHINERY WANTED

WANTED—GOOD USED COMBINATION bulk-bag air delivery feed truck with hoist or body without chassis. G D Poultry, Inc., Bridgewater, Mass.

WANTED TO BUY — RICHARDSON Scales, bag closing machines and other good mill, feed and elevator equipment. J. E. Hagan Mill Machinery, Jefferson City, Mo.

HELP WANTED

EXPERIENCED FEED TERRITORY MANagers for Iowa and Minnesota territories. General Mills, Inc., 3033 Excelsior Ave., Minneapolis 16, Minn.

NUTRITIONIST—CENTRAL STATES FEED manufacturer, M.S. or Ph.D. in animal nutrition. Send complete resume. Address ad No. 6318, Feedstuffs, Minneapolis 40, Minn.

WANTED—EXPERIENCED MILL OPERAtor to take charge of completely new pellet mill. Prefer some pelleting experience but not a prerequisite. Give experience and references. Sitzmann Livestock Co., 616 W. Ella, Willmar, Minnesota.

EXPERIENCED AND AGGRESSIVE FEED salesmen. Possible advancement to Sales Manager position. Well-known established feed company, Southwest. Give experience and reference. Desirable age: 35-45. All inquiries treated confidential. Address ad No. 6317, Feedstuffs, 612 Board of Trade Bldg., Kansas City 5, Mo.

SITUATIONS WANTED

SALES MANAGER WITH BROAD EXperience in sales direction, advertising, store operation and direction of feed service departments desires change. Experience also covers sales of fertilizer and specialty items such as poultry medications. Full resume or interview upon request. Address ad No. 6322, Feedstuffs, 141 West Jackson Blvd., Chicago 4, Illinois.

SITUATIONS WANTED

EXPERIENCED PH.D. NUTRITIONIST, broad background, desires diverse responsibility with feed, food or pharmaceutical firm. Address ad No. 6332, Feedstuffs, Minneapolis 40, Minn.

MISCELLANEOUS

BAG CLOSING SEWING MACHINES— Specializing in making Union Special machine automatic. 80600H tape, 80600E straight sewing and 600080D tape machine. Also specializing in repairing and overhauling Union Special, Fischbeins and Minneapolis bag closing machines. All repairs done on machines guaranteed for four months. Complete line of bag machines and equipment for sale. Also complete line of parts, oil and thread. We also buy surplus stock. Robert E. Mayse, 630 West Victoria Ave., Montebello, Cal.; PA 2-4087.

BUSINESS OPPORTUNITIES

FOR SALE—FEED PLANT SOUTHERN Wisconsin with warehouse—200 feet long on railroad. Also two branches nearby towns. Retiring account/age. Bentley Dadmun, Whitewater, Wisconsin.

BUSINESS OPPORTUNITY

Would you like to become operator and part-owner of the most modern feed mill in west central Minnesota? You would be in business with a well-known manufacturer of integrity that would back your interest with strong sales, service, product-control, and promotion. Reasonable working investment required. For more information write Box No. 6321, Feedstuffs, Minneapolis 40, Minn.

Buy and Sell
through
WANT ADS
—In—
FEEDSTUFFS

Arkansas Formula Feed Tonnage Sales

LITTLE ROCK, ARK.—Total sales of formula feeds in Arkansas for the fiscal year 1959-60 came to 936,270 tons, according to figures announced by the Arkansas State Plant Board.

Arkansas manufactured feeds accounted for 369,625 tons while out of state manufactured feed totaled 566,645 tons.

Total of all commercial feed sales came to 1,211,556 tons with Arkansas feeds accounting for 481,338 tons and out of state feeds for 730,228 tons.

Arkansas Feed Tonnage Sales Reported for Fiscal Year 1959-60
(July 1, 1959, Through June 30, 1960)

Classes of feeds	Tons Arkansas	Tons Out of state	Tons Total
Dairy or cow feeds	44,961	91,661	136,622
Cattle & calf feeds	13,016	15,588	28,604
Turkey feeds	10,369	34,367	44,736
Broiler, starter & grower	203,116	229,636	432,752
Scratch feeds	2,601	2,441	5,042
All other poultry feeds	54,006	151,099	205,105
Horse & mule & all grain	35,741	10,196	45,937
Pig and hog	5,815	31,657	37,472
Dog & other small animal feeds	2,522	12,007	14,529
Cottonseed meal	46,855	13,678	60,533
Soybean oil meal	15,146	36,334	51,480
Alfalfa meal	2,045	6,537	8,582
Corn products	23,785	11,389	35,174
Wheat products	4,144	55,322	59,486
Oat products	2,941	640	3,581
Rice bran	1,939	61	2,000
Rice mill by-product	3,542	0	3,542
Other rice products	633	92	725
Other grains	1,461	311	1,772
Animal products	3,414	3,649	7,063
Brewers & distillers products	52	1,491	1,543
Milk products	0	335	335
Mineral feeds	131	6,822	6,953
Miscellaneous	3,083	14,915	17,998
Total	481,338	730,228	1,211,556
Tonnages reported, fiscal year 1958-59			1,350,086

Complete Turkish Mill

ISTANBUL, TURKEY — A new feed mill has been completed here and within a short period of time other mills will be built in Izmir, Eskisehir, Bandirma, Kirsehir and Mersin. These new developments follow completion of a feed mill in Erzurum and others in Ankara and Konya, according to a report from Henry Simon, Ltd., Stockport, England.

The Simon firm reports that Turkish farmers are acclaiming the quality of the new compound animal feeds produced. It is also reported that considerable effect on meat and milk efficiency is being shown.

These mills are part of a Turkish government enterprise which also includes flour mills and grain storage silos and will ultimately span a large area of the country. Simon Handling Engineers, Ltd., an associate firm of Henry Simon, Ltd., is main contractor for the projects.

Representative Named

WILMINGTON, DEL.—Dr. Eugene D. Crittenden, Jr., has been appointed senior technical sales-service representative in Hercules Powder Co.'s naval stores department, it was announced here. In his new position he will be operating out of the department's New York district sales office.

He received his Ph.D. degree in chemical engineering from the University of Pennsylvania in 1951. He joined Hercules in June of that year as a chemical engineer at the research center, becoming a senior technical engineer in 1953.

After spending two years in the development division of the naval stores department in Wilmington, Dr. Crittenden spent 1½ years at the Brunswick, Ga., plant. After that he served for a similar period doing product and process development work at the Burlington, N.J., plant. He was named technical development representative on the naval stores home office staff in 1958, a position he held at the time of his new appointment.

Temperature Extremes Are Factors Affecting Ketosis in Dairy Cows

WASHINGTON—Temperature extremes may be more important than other environmental factors—including diet—as a cause of ketone formation in blood of dairy cattle, according to a U.S. Department of Agriculture publication.

This new research, says the article, may explain why ketosis, a metabolic disorder caused by an excess of ketones in the blood, is more prevalent among dairy cows in some years than in others. Ketones are intermediary compounds formed when fats or some amino acids are broken down for energy.

Ketosis is known in practically every country where dairy farming is practiced, and often affects high-producing cows. A million cases are reported in the U.S. in some years. The disorder is seldom fatal, but it freqently lowers vitality and reduces milk production.

Experiments by USDA chemist P. J. Van Soest at the Agricultural Research Center in Beltsville, Md., showed that when the temperature dropped to 3° F. during the winter, ketones in the blood of test cows were four to six times the normal .002 to .006%. At 100° F., the amount of ketones present was about double normal.

Two or three days passed before a change in air temperature caused a change in ketone level. Why either high or low temperatures affected ketone levels in the blood is not known.

Tests were made over an 18-month period of a summer season and two winters. Six dairy cows with no history of ketosis were used. Increases in ketones induced in test animals by extreme temperatures masked attempts to study variation as influenced in individual cows by lactation, season, environmental conditions and physiological status. Despite the high levels of blood ketones developed during tests, no symptoms of ketosis were noted, indicating that some animals may be resistant.

Illinois Poultry Group Drops District Meets

KANSAS CITY, MO.—Directors of the Illinois Poultry Improvement Assn. have voted to eliminate the state's district hatchery meetings this fall and concentrate its attention on the Midwestern "Quickie" convention to be held in Chicago on Dec. 7-8.

The "Quickie," to be held at the Conrad Hilton Hotel, is sponsored by the American Poultry & Hatchery Federation. Arrangements have been made by the Illinois group for a "Hatcherymen's Special Car" that will run from Southern Illinois to Chicago on Dec. 7.

The car, a part of the Panama Limited railroad line, will be attached at Carbondale and will stop at Centralia, Effingham, Mattoon, Champaign and Kankakee to pick up hatcherymen.

For advance reservations, write A. E. Harless, Box 91, Shelbyville, Ill. The train will leave Carbondale on Dec. 7 and will make the return trip on Dec. 8.

Named by Dannen Mills

ST. JOSEPH, MO.—R. N. Helmuth, Kansas City, has been appointed assistant comptroller of Dannen Mills here. Dwight L. Dannen, company president, in announcing the appointment, noted Mr. Helmuth will succeed Warren Reppert, who died in August. Mr. Helmuth has been with Arthur Anderson & Co., Kansas City.

SWINE FEEDING PROGRAM—Dr. Damon V. Catron, vice president in charge of research and marketing for Walnut Grove Products Co., Inc., Atlantic, Iowa, points out Walnut Grove's new swine feeding program, called DC-1. The new program was presented to more than 500 representatives of Walnut Grove at a sales meeting in Des Moines recently.

TV SPEEDS EXCHANGE GRAIN PRICES

MINNEAPOLIS—The age of electronics is making an impression on the trading floor of the Minneapolis Grain Exchange, and it is taking on a "new look."

Closed circuit TV cameras focused on price quotation boards of the trading floor are now flashing price information to offices in the building, as well as to another building in the downtown area. The signal is transmitted by wire from the trading floor to other offices located in the exchange building. To reach a nearby building, a micro-wave transmitter is used to the Pillsbury building some four blocks away.

This new system of communication enables grain buyers and sellers to have instantaneous information on what is going on in the major markets of the U.S. and the world. According to Allan Q. Moore, president of the exchange, "This is another step forward on the part of the exchange to keep its facilities modern and provide better service to its members and the public."

Although closed circuit TV system is now on an experimental basis, it may be expanded if additional member companies request the service. Currently utilizing the TV system on a trial basis are the Pillsbury Co., Cargill, Inc., and F. H. Peavey & Co.

Use High Vitamin A Against Capillaria

DURHAM, N.H.—When there is a history of capillaria on a farm and a laying flock fails to reach the expected peak of production or when a flock starts decreasing in production faster and sooner than normal without apparent reason, a two week feeding of high level vitamin A should be tried, according to Dr. A. C. Corbett, poultry pathologist at the University of New Hampshire here.

The sooner this is done after the birds are in production the less damage will be done to the birds and the better the response, according to the New Hampshire poultry pathologist.

If improvement is obtained but not maintained, it may be desirable to feed extra vitamin A continually. It also seems to ease the stress of some other conditions, such as respiratory trouble and is relatively inexpensive compared to most medications, it was reported. A 2-3% increase in production will pay for the extra vitamin.

Use of high level vitamin A to combat the damaging effects of capillaria worm infestation has been recommended for several years by the poultry diagnostic laboratories in the northeastern part of the country. The recommendation is that it be used at a level of 12,000 units per pound of feed for a minimum of two weeks.

Dr. Corbett said that capillaria worms are becoming so common that some people estimate more flocks in New Hampshire have them than are free of them, and once a farm becomes infested, subsequent flocks on those premises generally get them sooner or later.

BUTTERMILK POWDER for sale, animal grade packed in polyethylene lined bags. Truckload or carload quantities f.o.b. Minneapolis, Minn. Also spray and roller dried whey.

K & G SALES COMPANY
8500 Pillsbury Ave. S. Minneapolis, Minn.
Phone: TUxedo 1-8691

FOR ALL APPLICATIONS

PAXCO DEHYDRATED CORN COB MEAL is available in six grinds—from the coarsest to the finest — for all feed applications—roughage, pellets and as a carrier for molasses and feed additives. Write today to:

PAXTON PROCESSING CO., INC.
P. O. Box 120 Phone 222 Paxton, Illinois

A Major Breakthrough in Moisture Testing

The new Burrows Moisture Recorder—a major breakthrough in testing of all grains.

Accurate — Balanced electronic circuit is self-adjusting

No charts — Direct moisture percentage reading on a lighted dial. Human errors eliminated

Automatic temperature correction — No separate temperature tests

Fast complete reading in 5 secs.

Printed Tickets — Moisture percentage can be printed on scale ticket automatically

10 day free trial Liberal trade-in allowance

Write for circular

BURROWS MOISTURE RECORDER

Burrows Equipment Co.
Dept. C-10, Evanston, Ill.

New Feed Mill Dedicated in Montana

MALTA, MONT.—An all-steel feed mill was dedicated Oct. 8 here. Designed to operate with a minimum of labor, the mill approaches complete automation under an IBM card system, officials said.

The mill, with 100-ton per day capacity, is owned and operated by Phil-Co Feeds, Inc., in conjunction with the Malta Seed House. The mill is designed to process a variety of feeds, including pelleting, rolling and steam rolling, mixing and grinding. The main structure, composed of Butler Manufacturing Co. square steel tanks, is 32 ft. square and 75 ft. high.

The building was designed by the Continental Engineering Co., Hutchinson, Kansas, and was erected by Hi-Line Steel Co., Malta. The J. B. Ehrsam & Sons Manufacturing Co., Enterprise, Kansas, furnished the supplies and major equipment.

The mill represents an investment of $250,000 by area ranchers, farmers and businessmen.

W. E. Sims and the Malta Chamber of Commerce spearheaded the project. Phil-Co officers include Sanford Barrett, president; Victor Nicholson, vice president, and Dick Vogt, secretary-treasurer. Mr. Vogt is also manager of both the mill and Malta Seed House.

New Swine Feeding Program Is Outlined

DES MOINES—A new swine feeding program "that shows a feed conversion ratio from 3.02 to 3.03 lb. of feed needed to put on a pound of gain, according to experiments," was reported recently by Dr. Damon V. Catron, vice president in charge of research and marketing for Walnut Grove Products Co., Inc., Atlantic, Iowa.

Dr. Catron, in outlining this new feeding program to the sales organization of Walnut Grove, emphasized the importance of the application of nutrient requirements of different stages of the hog's life into a life-cycle feeding program.

"Some of the feeds incorporated in the new program are complete rations; some are supplements to be mixed with home-grown grains," he said, adding that the program "offers the swine producer complete flexibility."

The new program has been named DC-1 (DC for Damon Catron and 1 because it is his first swine feeding program as a member of the feed industry. Dr. Catron formerly was in charge of swine nutrition at Iowa State University, Ames.)

Research on Geese Gets Wide Attention

UNIVERSITY PARK, N.M.—New Mexico State University's research on geese is attracting nation-wide attention, according to Dr. D. W. Francis, head of the University's poultry department.

Poultry specialists from many states are inquiring about the nutrition research project on White Chinese geese which was made possible this year through a grant of 3,600 geese and $3,000 by Stahman Farms, Inc., Las Cruces, world's largest producer of geese.

Following are some of the poultry specialists who have recently visited the University's poultry department: Dr. J. M. Dixon, Louisiana State University, Baton Rouge; Prof. C. O. Dossin, Pennsylvania State University, University Park; Dr. A. S. Rosenwald, University of California, Davis; Dr. E. L. Stephenson, University of Arkansas, Fayetteville.

Dr. W. F. Krueger and B. C. Wormeli, Texas A & M College, College Station; Prof. George Quigley, University of Maryland, College Park; Prof. E. Malinovsky and Dr. G. J. Mountney, Ohio State University, Columbus, and Lee Herrick, poultry specialist, International Cooperation Administration, and former staff member of Virginia Polytechnic Institute, Blacksburg.

Graduate students, agricultural exchanges, and poultry specialists from several foreign countries have also visited the poultry department recently, according to Dr. Francis.

The study will determine the energy and protein requirements of growing geese.

Get longer life & better service!

BOSS of the ROSS line! . . . crimps & flakes all grains. Corrugations available for any grain on five roll sizes, 15x30 to 18x36. Compact, even with jet steamer, simple design, no gadgets; all steel; roller bearings throughout.

Only Ross Roller Mills give you TURN-TUFF ROLLS

Safety features & roll protection built-in. Fully enclosed double chain differential; V-Belt Drive optional.

ROSS
MACHINE & MILL SUPPLY, INC.

Roller Mills, Turn-Tuff Rolls, Corrugating
12 N.E. 28 • Ph. JA 8-2132 • Okla. City, Okla.

Ross Machine & Mill Supply, Inc.
12 N.E. 28th St., Okla. City, Okla.
Gentlemen:
Please send additional information on the Ross Heavy Duty Mill and Jet Steamer. FS

Name _____
Firm _____
Address _____
City _____ State _____

Artificial Lighting Too Soon May Cut Young Hen Output

WASHINGTON—Lengthening the daylight hours by artificial lighting to increase laying in young hens may actually reduce egg production, if the birds are too young when exposed to the extra light, according to scientists of the U.S. Department of Agriculture.

Poultrymen have used artificial light for many years to encourage hens to lay more eggs. The accepted practice is to expose the birds to a lengthened, 14-hour day when they are placed in laying quarters at maturity—when they are 20-22 weeks old.

Experiments showed that pullets exposed to lengthened days—in this case 16-hour days—from birth to 20 weeks of age began laying 7-10 days later than similar birds exposed to normal daylight during this period. Over a 51-week test period, the birds that received artificial light laid an average of seven to eight fewer eggs.

The two groups of birds differed only slightly in mortality, live weight, feed consumption and egg weight.

The experiments were conducted at the Southwest Poultry Experiment Station, Glendale, Ariz., by R. W. Lowe and Burt W. Heywang, poultry husbandman of USDA's Agricultural Research Service.

White Leghorn pullets were used in the experiments, started during two successive fall seasons. Half the birds in each experiment were exposed to normal daylight only, and half were exposed to normal daylight plus artificial light to make a total of 16 hours of light daily until they were 20 weeks old. After 20 weeks, all birds received enough artificial light to make a total of 14 hours of light daily.

Artificial light was provided by one 60-watt bulb 6 ft. above the floor of each brooder. Normal daylight during the 20-week period ranged from about 10 to 12 hours.

Dividend Declared

FT. WAYNE, IND.—The directors of Central Soya Co., Inc., here, have declared a quarterly cash dividend of 27½¢ per share on the capital stock of the company payable Nov. 15 to stockholders of record at the close of business Oct. 11, according to an announcement by Harold W. McMillen, chairman of the board.

This is the first quarterly dividend of the current fiscal year and a continuation of the company's record of cash dividends, which has been uninterrupted since 1942.

At the same time, the directors set the close of business Oct. 11 as the record date for determining stockholders entitled to notice of and to vote at the annual meeting of stockholders.

Range Country May Support More Cattle As Industry Shifts

URBANA, ILL.—Dr. A. E. Darlow, vice president of Oklahoma State University, says he foresees more cows in the Corn Belt and more feeding in what we now call the "cow country." He also believes that the end of the middle-sized beef operator may be in sight.

Dr. Darlow, speaking recently at the University of Illinois' Farmstead Engineering Conference on confinement housing of livestock, was discussing the future of the cattle industry.

He explained that he expects a significant adjustment in beef cattle population within certain areas of the country.

"When farmers are no longer producing wheat for government storage, the price will inevitably be much lower than it is today. This will mean the range and wheat country will carry more cattle because land that is now in wheat will be put into permanent grass or forage of some kind," he explained.

"As the population in the South, Southwest and West increases, it will become increasingly ridiculous to grow cattle in the Southwest, ship them north for feeding, and then back to the Southwest for consumption."

Dr. Darlow says that in the future, the two types of cattle feeding operators left will be the smaller feeder and the one who feeds enough cattle to be able to install the necessary machinery for storing, handling, mixing, processing and distributing feed.

"All the big operations will be completely mechanized, and there will be some integrated operations in the West from the feeder calf stage on.

"Integration probably won't reach the point where some outfit owns the land, runs the cows, produces the calves and feeds them out—even to the point of slaughtering, processing and distributing the meat."

The Farmstead Engineering Conference is an annual meeting sponsored by the American Society of Agricultural Engineers.

22 Utah Counties to Get Emergency Feed

WASHINGTON—The secretary of agriculture has designated 22 counties in Utah as emergency areas where farmers and ranchers may buy government-owned feed grains at current support prices.

Counties designated are: Beaver, Box Elder (that portion west of Great Salt Lake), Carbon, Daggett, Duchesne, Emery, Garfield, Grand, Iron, Juab, Kane, Millard, Morgan, Piute, San Juan, Sanpete, Sevier, Summit, Tooele, Uintah, Washington and Wayne.

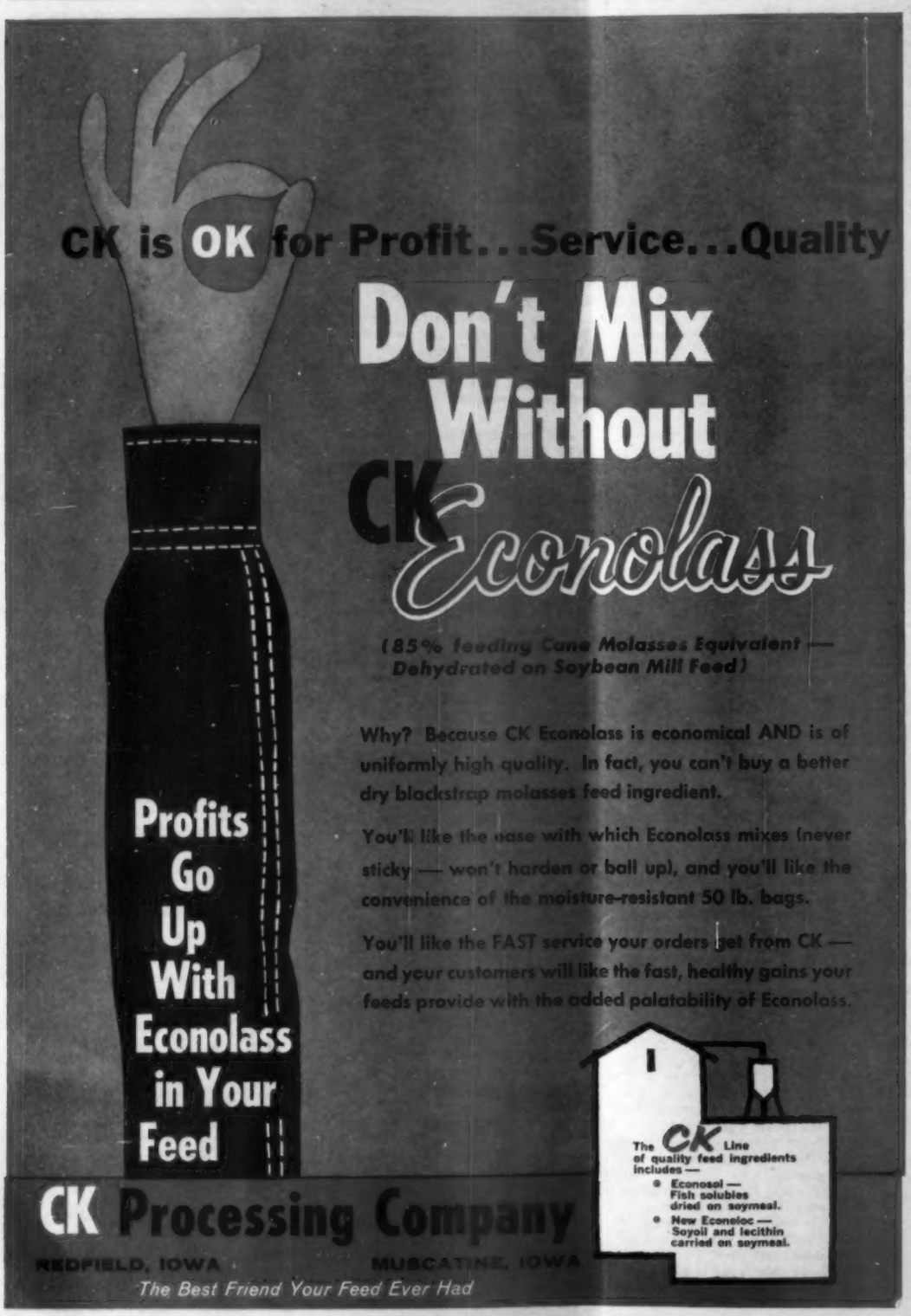
The designated Utah counties have had a severe drouth this summer reducing feed grain and hay supplies and limiting range forage and freezing temperatures as late as June 17 severely damaged this year's hay crop, making them eligible for assistance through March 31, 1961.

Commodity Credit Corp.-owned corn and grain sorghums, as available, will be offered for sale in Utah under the program.

Previously 34 counties in Mississippi, 18 parishes in Louisiana, nine counties in Wyoming and six counties in South Dakota had been designated as emergency areas under this program. In all, 89 counties or parishes are currently designated under the livestock feed program.

FEED FIRM REORGANIZED

MORGAN HILL, CAL.—Clara Feeds, Inc., has been reorganized as the Morgan Hill Feed Co. Chester J. Adams, a veteran of 25 years in the feed business, owns and manages the new firm. Morgan Hill Feed manufactures poultry and rabbit feeds.


CK is OK for Profit...Service...Quality
Don't Mix Without CK Econolass
(85% feeding Cane Molasses Equivalent — Dehydrated on Soybean Mill Feed)
Why? Because CK Econolass is economical AND is of uniformly high quality. In fact, you can't buy a better dry blackstrap molasses feed ingredient.
You'll like the ease with which Econolass mixes (never sticky — won't harden or ball up), and you'll like the convenience of the moisture-resistant 50 lb. bags.
You'll like the FAST service your orders get from CK — and your customers will like the fast, healthy gains your feeds provide with the added palatability of Econolass.
Profits Go Up With Econolass in Your Feed
The CK Line of quality feed ingredients includes —
Econosol — Fish solubles dried on soymeal.
New Econoloc — Soyoil and lecithin carried on soymeal.
CK Processing Company
REDFIELD, IOWA
MUSCATINE, IOWA
The Best Friend Your Feed Ever Had

Middle East Topic for Northwest Feed Men

MINNEAPOLIS—"Free Enterprise in the Middle East" will be the topic of a talk at the Oct. 24 meeting of the Northwest Feed Manufacturers Assn. to be held at the Calhoun Beach Hotel.

Speaker will be Arsham Ohanessiam, a native of Baghdad and a former secretary to the political adviser on Arab tribal affairs to the British Intelligence Service.

A number of the members of the organization have heard the speaker and report that his talk should be of interest to all business men.

Mr. Ohanessiam also worked for four years with the Iraq Petroleum Co. In the U.S. he has worked in employment and management development for a Boston chain store. He is presently executive vice president for Alden Elstrom Associates, consulting industrial engineers, Minneapolis.

There will be a social hour at 5:30 p.m. with dinner at 7 p.m.

Poultry Events Set

ST. PAUL—A series of three area educational meetings for egg producers has been announced by the University of Minnesota poultry department and extension service. The meetings planned are: Owatonna, Oct. 25; Redwood Falls, Oct. 26, and Wadena, Oct. 27. Each meeting will begin at 10 a.m.

Topics to be discussed at all three meetings include: "Combating Laying House Mortality," Dr. R. B. Solac, extension veterinarian; "Feeding Practices to Improve Efficiency," Dr. E. L. Johnson, head, poultry department; "How Can Environmental Factors Affect Costs of Production?", Dr. R. W. Berg, extension poultry specialist, and "What Does Better Egg Quality Mean to the Industry and How Can It Be Obtained?", Dr. M. H. Swanson, poultry department. Feed men have been asked to urge their customers to attend.

Feed Firm Sold

SYCAMORE, GA.—Worth Milling Co., Sylvester, Ga., has recently bought the former Turner County Grain & Elevator Co., a Sycamore feed manufacturing establishment, and will operate the mill as Turner Milling Co.

FOURTH QUARTER

(Continued from page 1)

from $247,071, or 20¢ a share, in the year-ago quarter. Sales declined to $30,040,400 from $33,213,069 a year earlier.

For the fiscal year ending Aug. 27 net income dropped to $1,033,439, equal to 83¢ a share from $1,630.181, or $1.30 a share, in the fiscal year ended Aug. 29, 1959. Net sales were off to $116,030,273 from $130,517,256 a year ago.

Howard Kellogg, Jr., chairman of the board, said, "It has been a difficult year in many ways, the main problem being that of inadequate profits in the soybean processing industry. This was offset in part by improved performance in our feed manufacturing activity, indicating the benefits derived from our expansion and diversification plans started some three and a half years ago."

The board chairman said, "Fourth quarter earnings of 28¢ per share represented the best quarterly earnings of the fiscal year. The improvement was a result of higher processing margins on soybeans and continued good volume. In fact, unit volume throughout the entire year held up remarkably well and the decline in dollar sales reflects lower prices of end products."

Mr. Kellogg said that the "coming year appears brighter than the one just completed. Demand for products resulting from processing of flaxseed and soybeans should be good during the coming year, with export interest giving a boost to soybean oil. Demand for manufactured feeds also appears to be on the increase, and our feed divisions (the Beacon Milling Co. and Professional Feeds Division), which set new tonnage records this past year, should attain even higher levels."

Mr. Kellogg, in his interim report to stockholders, said "several steps are being taken toward elimination of unprofitable plant operations." He said this program is "just getting under way" and that the company will disclose details of it later. Elimination of unprofitable plant operations, he noted, will result in an increase in working capital and some decrease in net plant investment.

At the same time, Mr. Kellogg said, "expansion is continuing in a modest way in fields where a greater return is realized on investment." This expansion, he pointed out, includes new product development.

EGG PROJECT

(Continued from page 1)

grocery wholesaler Malone & Hyde, Inc., some of its 327 associated food stores and Nutrena.

Nutrena is providing housing, equipment and management plans for producing operations in the program. Producer qualification and marketing contracts will be handled by J. R. Helbig, Nutrena district sales manager, in cooperation with M & H Farms, Inc.

Nucleus of Project

Nucleus of the over-all project will be M & H Farms, Inc., to be located near Oakland in Fayette County, where there will be 90,000 laying hens and 30,000 replacement pullets. The birds are expected to produce, in modern "controlled-environment comfort," some 34,000 dozen eggs weekly.

The total program anticipates 300,000 layers, with the additional production coming from other independent producers in the area, according to the Malone & Hyde president, Joseph Hyde, Jr., who is also head of the new farm company and who announced the project.

A "high density layer system" developed by Nutrena poultry scientists will be used by M & H Farms, and the same type of facilities will be recommended to potential cooperating producers.

Commenting on the Memphis project, E. C. Fuller, Nutrena executive vice president, said that "investment by food retailers in a venture of this sort sets a new high in the coordinated production and marketing of eggs. Agricultural producers historically have been production-oriented, turning out products they want to produce in quantities to suit their facilities, at times to suit their convenience, without close regard for the needs and desires of their customer, the food industry. Here we have a project geared in volume, quantity and time exactly to the specifications of the customer, with his patronage and promotion assured by his investment. Independent producers can hardly hope for a more secure market. We recommend their participation and are ready to help them qualify."

Mr. Hyde said that eggs from all flocks will be graded and packaged at the M & H Farms and rushed directly to participating retail stores in refrigerated trucks. The carton for M & H eggs will carry the seal of a new Tennessee "certified fresh fancy" quality control program launched by the State Department of Agriculture. To qualify, all flocks must pass strict quality control standards, Mr. Hyde said. Frequent break-out inspections at the egg plant and at individual farms by state officials, he noted, will assure highest possible quality and freshness.

The grocery executive said that about 40 owners of Big Star food stores had invested in the project, along with officials of Malone & Hyde, and that owners of other associated stores would be invited to participate as the supply of the eggs expands.

Need Dependable Supply

"Many of our associated stores are now supplied individually by independent producers," Mr. Hyde said, "but supplies change as flocks come into or go out of production, and the volume of top quality eggs has not been dependable enough to justify a market-wide sales promotion program. The stores agree with us that egg producers, retailers and consumers all will gain considerably if one brand of truly superior quality can be offered for sale and promoted in the entire Memphis market.

"The stores have invested their money so that M & H Farms can provide the necessary nucleus of steady, dependable supply. Replacement pullets started throughout the year will insure constant egg outturn in a volume sufficient to justify advertising our brand in the market. The brand preference and volume we build will provide cooperating independent producers with a better market than they can obtain by themselves. We expect a number of our present producer-suppliers will be able to meet our quality standards and become a part of the program."

Nutrena System

According to Mr. Fuller, a complete "high density layer system," to be constructed and operated by M & H Farms, was developed by poultry scientists at Nutrena's 840-acre research farm at Elk River, Minn. Several of the system's 10,000-bird houses, he said, are already in successful operation in southern states. "They are windowless, pole-type structures of Nutrena design, with unique insulation and ventilation features to protect birds from extremes of heat and cold and thus avoid production slumps that impair efficiency of cheaper housing," Mr. Fuller said.

At M & H Farms, nine such houses will be hooked together in three units, each with three houses arranged in a "T," with an egg room in the middle. Automatic egg-gathering belts will bring the eggs from roll-away nests to the egg room, to be placed on flats and rushed to an egg plant close by for immediate cooling, processing and packaging. With automatic handling of feed, water, eggs and manure, one man can handle a three-house unit (30,000 birds), a new high in labor efficiency, Mr. Fuller said.

Complete housing, equipment and management plans for the 10,000-bird operation are available to potential cooperating producers from Nutrena Mills, Inc., 900 Provine Street, Memphis, the announcement noted.

HAZARDS

(Continued from page 1)

examinations, including chest X-rays, hair and urine analysis and skin tests.

On the basis of findings in the three pilot studies, public health officials will decide if a more extensive study of feed industry operations is warranted. Public health officials have told feed men that they have no reason to think that mill hazards of this type exist, but they want to determine the facts as found in common mill operation practice.

The investigation is not connected in any way with the Food and Drug Administration, which is interested in the feed products themselves and their effects on animals and ultimately human food.

The public health study will be directed primarily toward cattle feed production, but the government officials say that they are not concerned only with diethylstilbestrol but with other additives also.

The study is under the general direction of Dr. Clark Cooper, division of occupational health, Washington. The project leader is Dr. Roy Gibson, assisted by Dr. Lewis Cralley, of the research and training facility of the Public Health Service at Cincinnati.

MAPLE LEAF

(Continued from page 1)

mill which had been operated at about half of capacity for several years.

Later, it is planned to build a mill at Montreal in the province of Quebec. This move was explained by the firm as due to the old mill's being "uneconomic in relation to its size and location."

However, no plans regarding the feed mill, rye mill and bag plant were announced immediately.

Production of the firm's Pioneer-Cafeteria feed at several other plants has been speeded up to assure uninterrupted service, firm officials say. Those plants are at Toronto and Goderich, Ontario; Montreal, Quebec; Calgary, Alberta, and New Westminster, B.C.

The same pattern is being followed by the firm's flour mills located at Toronto, Ontario; Winnipeg, Manitoba, and Calgary, Alberta.

An explosion in the bleach room of the flour mill is considered to have sparked the blaze which ripped through the flour mill, the feed plant, rye mill and Ontario Bag Co., a subsidiary.

Louis Barnarva, 24, a flour mill worker, died Oct. 9 of his injuries. Another man remained in critical condition.

TOP OF THE HOPPER

(Continued from page 2)

distributed by the firm includes some quotations from Dr. W. C. Hueper, chief anti-carcinogen spokesman for the National Cancer Institute, whose name has figured prominently in the Delaney controversy. "We Believe in the Natural For Man or Beast," the folder states.

A NEW MILKING MACHINE on display in Vermont recently does "everything but name the cow for the dairy farmer," according to a Vermont Extension Service release. Among other things, it features automatic feeding according to production. The farmer selects a grain-milk ratio, and the machine does the rest. As the milk flows toward the tank, it is weighed automatically. This triggers the feeding mechanism. The cow is rewarded with a proportionate amount of grain. "It's something of a bovine pay-as-you-go system," a dairy expert commented.

PELLETING AND CRUMBLING of poultry manure is opening up new market prospects for Dwight Bert and Oren Decker, Upland (Cal.) Feed & Fuel Co., according to Poultry Tribune. Most poultry manure now goes on croplands and orchards and little is used by home gardeners because of concern that it will "burn" lawns and shrubs. However, by processing it into crumbles, a uniform product can be packaged and directions supplied for proper use on lawns and gardens. The partners spent some $70,000 to get their product, White Feather Poultry Guano, on the market.

The FEED MARKET

PRICE QUOTATIONS, MARKET TRENDS
OF PRINCIPAL INGREDIENTS

NOTE: Quotations on feed ingredients shown in these and adjoining columns are wholesale prices, per ton, bulk, for prompt delivery, unless otherwise noted. They are the latest quotations available from Feedstuffs correspondents and are not necessarily those in effect on date of publication. The prices represent fair average trading values and do not necessarily represent extreme low or high levels at which individual sales might have occurred. A descriptive summary of supply and demand factors prevalent in the feed market appears on page 2.

A AND D FEEDING OIL

Chicago: Demand fair; trend steady; supply ample; straight A feeding oil, with 10,000 units vitamin A per gram, 7@7¼¢ a million units of vitamin A, l.c.l., packed in 55 gal. drums, f.o.b. Chicago, drums included.

Minneapolis: Demand fair; supply ample; 10,000 A 31¢ lb.; 300 D, 2,250 A 17½¢ lb.; 300 D, 1,500 A 16¢ lb.; 300 D, 750 A 15¾¢ lb.

Denver: Demand fair; trend steady; supply good; 21¢ lb.

Boston: Demand slow; supply plentiful; 400 D, 3,000 A 19½¢ lb.; 300 D, 3,000 A 19¢; 300 D, 2,250 A 17½¢; 300 D, 1,500 A 16¢; 300 D, 750 A 14¢; 75 D, 750 A 13½¢.

ALFALFA MEAL

St. Louis: Demand slow; trend firm; supply limited; suncured, 13%, fine, sacked $46; dehydrated, 17%, 100,000 A pellets, demand slow, trend firm, supply ample, bulk $46.50.

Portland: Demand good; trend firm; supply adequate; $66.40.

Memphis: Demand fair; trend steady to higher; supply ample; dehydrated, 17% protein, guaranteed 100,000 units vitamin A $49.

Chicago: Demand good; trend firm; supply fair; dehydrated, 17% protein 100,000 units vitamin A $46.50.

Kansas City: Demand fair; trend stronger; supply adequate; 17% dehydrated alfalfa, 100,000 A on arrival, pellets $43@44, reground pellets $44@45; 18% dehydrated alfalfa, 125,000 A on arrival, pellets $44@47, reground pellets $47@48; 20% dehydrated alfalfa, 150,000 A on arrival, pellets $45@50, reground pellets $47@51; suncured alfalfa, demand slow, supply tight, 13% pellets $36@37; bulk, No. 1 ¼-in. $38.50, sacked.

Seattle: Demand fair; trend firm; supply good; 15% protein suncured $49, 150,000 A unit dehydrated $70, both delivered truck loads, sacked.

Ft. Worth: Demand slow; light offerings; sacked: dehydrated, 17%, 100,000 A $54.50, truck or rail; suncured: 13% ¼-in. grind No. 1 $47@48, truck; 15% fine ground, dry $50; with 2% fat added $52, rail or truck.

Denver: Demand fair; trend steady; supply ample; dehydrated meal, sacked $51; bulk pellets $47.

Omaha: Demand fair; trend steady; supply ample; 17% dehydrated, 100,000 A units, bulk pellets $42; sacked meal $47, Omaha basis.

Minneapolis: 17% dehydrated, 100,000 A units, reground pellets $48, sacked; oiled reground pellets $50, sacked.

Los Angeles: Demand moderate; trend steady; supply adequate; dehydrated meal, 17% protein, 100,000 A $51; dehydrated pellet meal, 17% protein, 100,000 A $53@54; suncured meal, 15% protein $45@46; suncured crumbles, 15% protein $47@48.

Buffalo: Demand fair to poor; trend steady; supply adequate; $56, sacked, Boston.

Cincinnati: Demand fair; trend steady; supply adequate; 17% dehydrated, 100,000 vitamin A $53.

Philadelphia: Demand slow; supply fair; 17% dehydrated $54.50.

Boston: Demand steady; supply adequate; dehydrated, 17%, sacked $60; suncured, 13% pellets $51, sacked.

ANIMAL FAT (STABILIZED)

Ogden: Supply good; $5.50 cwt.

San Francisco: Demand fair; supply ample; bleachable fancy 8¢ lb.; yellow grease 4¾¢ lb.

Chicago: Demand good; trend firm; supply fair; tank truck, carlots, bleachable fancy tallow $5.75 cwt., yellow grease $5.

Kansas City: Demand slow; trend easy; supply ample; stabilized prime tallow 5¼¢ lb.

Ft. Worth: Demand fair; supply sufficient; prime tallow, tank cars 5½¢ lb., drums 6¾¢ lb., f.o.b. north Texas packing plants with returnable drums.

Salisbury, Md.: Demand excellent; supply limited; 5¾¢ lb.

St. Paul: Demand fair; supply ample; steady market; bleachable fancy 5½¢ lb., f.o.b. producer's plant.

Boston: Demand slow; supply ample; tallow 5¾¢ lb.; yellow grease 4¾¢ lb.

Atlanta: Demand good; trend steady; supply ample; 5¢ lb., f.o.b. Georgia and Alabama processing plants.

Louisville: Demand dull; trend weak; supply good; all off ½¢ lb.; bleachable white 5¾¢ lb., white tallow 6¼¢ lb., yellow grease 5¾¢ lb., all in tanks.

BARLEY FEED

Seattle: Demand and supply good; trend firm; $45, truck lots.

Portland: Demand dependable; supply short of full demand; trend easier; $43@43.50.

San Francisco: Demand fair; supply ample; rolled $58, ground $57.

Baltimore: Demand and supply fair; trend steady; $44.50, sacked.

Ogden: Supply good; rolled $45@46, whole $40@41.

Chicago: Demand fair; trend firm; supply ample; $34, sacked.

Milwaukee: Demand limited; trend unchanged; supply ample; feed barley 80¢ bu., bulk; barley feed $35 sacked; ground feed barley $41.50, sacked.

Denver: Demand fair; trend steady; supply tight; $2.10 bulk, $2.30 sacked.

Los Angeles: Demand slow; trend steady; supply ample; standard rolled $3 cwt., standard ground $3 cwt., both sacked.

Philadelphia: Demand slow; supply fair; $41.50.

Boston: Demand and supply steady; $46, sacked.

BENTONITE (SODIUM)

Chicago: Demand fair; supply ample; trend steady; f.o.b. Wyoming and South Dakota shipping points: 200 mesh $14 and net $13.75; fine granular (30 to 100 mesh) $14.25 and net $14; granular, 30 mesh $16.50 and net $16.25.

Denver: Demand fair; trend steady; supply good; $24.50, warehouse.

Cincinnati: Demand steady; supply adequate; f.o.b. Cincinnati, minimum 30 ton carlots: 80 granular $31.50, less than carlots $40; 200 mesh fine $31, less than carlots $40.

BLOOD FLOUR

Louisville: Demand slow; trend easy; supply good; $70@75, sacked.

BLOOD MEAL

Ogden: Supply ample; $80.50.

San Francisco: Demand and supply fair; $5 a unit of ammonia, sacked.

Portland: Demand fair; trend steady; supply ample; $110, sacked.

Chicago: Demand quiet; trend unchanged; supply fair; 80% protein $115, sacked.

Omaha: Demand and trend fair; supply ample; 80% $85, sacked, Omaha.

Los Angeles: Demand slow; trend steady; supply adequate; $6 a unit of ammonia, sacked.

Louisville: Demand slow; trend easy; supply good; $70@75, sacked.

BONE MEAL (STEAMED)

San Francisco: Demand good; supply ample; $75, sacked.

Portland: Demand fair; supply adequate; trend unchanged; $97@97.50, sacked.

Chicago: Demand and supply fair; trend firm; $80, sacked.

Seattle: Demand good; trend firm; supply limited; $92, sacked, f.o.b. car Seattle.

Ft. Worth: Demand fair; supply light; $100, sacked, f.o.b. Ft. Worth local manufacture.

Denver: Demand normal; trend steady; supply ample; $112.50, Denver.

Buffalo: Demand light; trend steady; supply light; $97, sacked.

Cincinnati: Demand slow; trend easier; supply ample; $90, sacked, Cincinnati.

Los Angeles: Demand and trend steady; supply very limited; imported $80.75, 20 ton lots, sacked.

Boston: Demand and supply steady; $100.

Louisville: Demand slow; trend steady; supply light; $80@85, sacked.

BREWERS DRIED GRAINS

Milwaukee: Demand fair; supply limited; trend unchanged; $44 bulk, $52 sacked.

Chicago: Demand broader; trend higher; supply light; 26% protein $43@44.

St. Louis: Demand good; trend firm; supply limited; $43.

San Francisco: Demand fair; supply ample; $51, sacked.

Ft. Worth: Demand fair; supply sufficient; 26% protein $49.90, October.

Buffalo: Demand fair; trend steady to higher; supply fair to poor; $56.50, Boston.

Cincinnati: Demand fair; trend steady; supply adequate; $51.

Los Angeles: Demand and trend steady; supply adequate; $50.

Philadelphia: Demand slow; supply light; $54.50.

Boston: Demand active; supply very tight; 24% $54, nominal; 26% $56, nominal.

Louisville: Demand fair; trend steady; supply good; $50, sacked.

BREWERS DRIED YEAST

San Francisco: Demand fair; supply good; 10¢ lb., sacked.

Chicago: Demand fair; trend steady; supply ample; 9½@10¢ lb., carlots, sacked; 9¾@12¾¢ lb., l.c.l.

Milwaukee: Demand fair; trend steady; supply ample; 10½@12½¢ lb., ton lots, sacked.

St. Louis: Demand fair; trend firm; supply ample; 9½@10¢ lb., carlots, sacked; 10½¢ lb., ton lots; 11½¢ lb., less than ton lots.

Pittsburgh: Carlots 10¢ lb.; 5 ton lots 11¢ lb.; ton lots 11½¢ lb., all sacked.

New Orleans: Carlots 10¢ lb.; 5 ton lots 11¢ lb.; ton lots 11½¢ lb., all sacked.

New York: Carlots 9½¢ lb., 10 ton lots 10¢ lb.; 5 ton lots 10½¢ lb., ton lots 11¢ lb., all sacked, f.o.b. New Jersey.

Portland: Demand dependable; supply ample; trend steady; 11@12¢ lb.

Seattle: Demand slow; trend steady; supply ample; $12 cwt., sacked.

Denver: Demand fair; trend steady; supply ample; 9¢ lb.

Omaha: Demand fair; trend weak; supply good; 11¢ lb.

Buffalo: Demand fair; trend lower; supply ample; $8.95 cwt.

Los Angeles: Demand and trend steady; supply adequate; 10¢ lb., 5 ton lots; 11¢ lb., 1 ton lots; 12¢ lb., less than ton lots; all sacked.

Cincinnati: Carlots 11¢ lb.; 5 ton lots 11¢ lb.; ton lots 11½¢ lb.

Boston: Demand and supply steady; 11¢ lb.

Louisville: Demand fair; trend steady; supply good; 10@10½¢ lb., sacked.

BUTTERMILK (CONDENSED)

Ogden: Supply ample; $4.40 cwt., drum.

San Francisco: Demand fair; supply good; $5 cwt., drums.

Chicago: Demand moderate; trend firm; supply fair; 500 lb. barrels $3.25@3.50 cwt.

Philadelphia: Demand slow; supply light; $4.25 cwt.

Los Angeles: Demand and supply limited; trend steady; 5½¢ lb., 100 lb. lots; 4½¢ lb., 500 lb. lots; both in barrels.

Boston: Demand and supply steady; 4¾¢ lb.

Louisville: Demand dull; trend steady; supply nil; $4.25 cwt., in paper drums.

CALCITE CRYSTALS AND FLOUR

(All prices net, sacked, including freight)

New York: Crystals $16.28, flour $10.28.

Buffalo: Crystals $17.11, flour $11.11.

Toledo: Crystals $18.96, flour $12.96.

Boston: Crystals $17.63, flour $11.63.

Lime Crest, N.J.: Crystals $11.50, flour $5.50.

CALCIUM CARBONATE

Chicago: Demand fair; trend steady; supply ample; fine grind, plain, 100 lb. bags $9.54; bulk, in hopper cars $7.54; bulk, in boxcars $8.04; granular grind $1 premium.

Minneapolis: Fine grind, 50 lb. bags $12.75; 100 lb. bags $12; bulk, boxcar $10.50; bulk, hopper $10; coarse grind $1 premium, delivered Minneapolis.

Seattle: Demand and trend steady; supply good; $14, sacked, ex-warehouse.

Los Angeles: Demand and trend steady; supply adequate; flour $10.15, 20 ton cars; meal $11.15, 20 ton cars; both sacked.

Cincinnati: Demand fair; trend steady; supply adequate; $7@7.50 cwt.

CHARCOAL

San Francisco: Demand steady; supply ample; $141, sacked.

Chicago: Demand fair; trend firm; supply fair; 50 lb. multiwalls $110.

Los Angeles: Demand slow; trend unchanged; supply adequate; hardwood poultry: $156, less than ton lots, $144.40, ton lots, both sacked.

Boston: Demand and supply light; granular No. 6 $110.

COCONUT OIL MEAL

Portland: Demand slow; trend easier; supply plentiful; $66.

San Francisco: Demand fair; supply ample; solvent $52; expeller $69.

Seattle: Demand fair; trend steady; supply ample; solvent type $75, sacked, f.o.b. car Seattle.

Los Angeles: Demand limited; supply ample; trend steady; copra cake $63, October.

CORN GLUTEN FEED AND MEAL

(All quotations for all cities are bulk basis, sacked basis $5 more)

Minneapolis: Feed $43.60, meal $66.60.
Atlanta: Feed $47, meal $70.
Birmingham: Feed $45.60, meal $68.60.
Boston: Feed $48.50, meal $71.50.
Chicago: Feed $37, meal $60.
Cleveland: Feed $44.90, meal $67.90.
Denver: Feed $47.20, meal $70.20.
Ft. Worth: Feed $45.70, meal $68.70.
Indianapolis: Feed $42.20, meal $65.20.
Kansas City: Feed $37, meal $60.
Louisville: Feed $44.60, meal $66.60.
New Orleans: Feed $46.90, meal $69.90.
New York: Feed $48.10, meal $71.10.
Norfolk: Feed $47.50, meal $70.50.
Philadelphia: Feed $47.70, meal $70.70.
St. Louis: Feed $37, meal $60.

COD LIVER OIL (FORTIFIED)

Boston: Demand slow; supply plentiful; 300 D, 3,000 A 20¢ lb.; 600 D, 2,250 A 18½¢; 300 D, 2,250 A 18¢; 600 D, 1,500 A 17¢; 300 D, 1,500 A 16½¢.

CONDENSED FISH SOLUBLES

Los Angeles: Demand and trend steady; supply adequate; 2½¢ lb.

Boston: Demand slow; supply plentiful; 2¢ lb.

Denver: Demand light; trend steady; supply ample; 3¢ lb., West Coast.

CORN OIL MEAL

Cincinnati: Demand fair; trend steady; supply adequate; $43.

Louisville: Demand slow; trend steady; supply normal; $49.60, sacked.

Seattle: Demand good; trend easy; supply ample; $54, carlots.

COTTONSEED OIL MEAL

Kansas City: Demand slow; trend steady; supply ample; 41% old process $53@53.50; solvent process $49@49.50, Memphis.

Memphis: Demand fair; trend weak; supply ample; prime 41% protein, old process $50.50; new process, 41% solvent $48.50.

San Francisco: Demand fair; supply ample; 41% $59, 44% $62.

St. Louis: Demand slow; trend easy; supply ample; solvent $53.

Wichita: Demand fair; supply ample; 41% old process $67, sacked.

Portland: Demand slow; trend steady; supply ample; $65.

Chicago: Demand improved; trend higher; supply light; Memphis basis, hydraulic $54.50.

Boston: Demand and supply spotty; 41% $73.50, sacked.

Louisville: Demand slow; trend steady; supply good; new or old process $61.50, sacked.

Philadelphia: Demand and supply fair; $66.50 in 30 ton cars.

Buffalo: Demand fair to poor; trend steady to lower; supply adequate; $73, sacked, Boston.

Atlanta: Demand good; trend steady; supply limited; 41% $58, Georgia and Alabama; $53, Mississippi and Tennessee producing mills.

Los Angeles: Demand and trend steady; supply ample; $53@54.

Cincinnati: Demand poor; trend steady; supply adequate; $61.

Seattle: Demand fair; trend firm; supply ample; $67, f.o.b. car Seattle.

Ft. Worth: Demand fair for meal, good for pellets; supply sufficient; 41% old process $61, f.o.b. mills Ft. Worth; carlots, solvent, 2% fat added $56.50, October; $56.50, October-November-December, delivered Ft. Worth; pellets $2 additional; hulls $19.

Denver: Demand and supply fair; trend steady; $59.

Omaha: Demand slow; trend steady; supply ample; 41% solvent $57.70, delivered Omaha.

CURACAO PHOSPHATE

New York: Minimum 14% phosphorus $46.50 sacked, $43.50 bulk, f.o.b. New Orleans, Jacksonville and Philadelphia.

D ACTIVATED ANIMAL STEROL (POWDERED)

Cincinnati: Demand fair; trend steady; supply ample; 1,500 ICU 11@12¢ lb.; 3,000 ICU 10¢ lb., warehouse.

Kansas City: Demand fair; trend steady; supply ample; 1,500 ICU 9¾¢ lb.; 3,000 ICU 11¢ lb.

D ACTIVATED PLANT STEROL (POWDERED)

Chicago: Demand fair; supply ample; 4,000,000 U.S.P. units per lb., 15¢ lb. in ton lots, less than ton lots 17¢ lb.; 12,000,000 units per lb., 5 tons to a carload 28¢ lb., ton lots and less 30¢ lb.

DEFLUORINATED PHOSPHATE

Coronet, Fla.: Minimum phosphorus 18%, minimum calcium 31%, maximum calcium 34%, maximum fluorine .18%; guaranteed uniform analysis; carload $66.25, sacked, 100 lb. multiwall bags, bulk $63.25; truck load $67, sacked, in 100 lb. multiwall bags, bulk $64, f.o.b. Coronet, Fla.

Tupelo, Miss.: Minimum phosphorus 14%, minimum calcium 28%, maximum fluorine .14% $57.07, f.o.b. Tupelo in 100 lb. multiwall bags, $54.07 bulk.

Wales, Tenn.: Minimum phosphorus 18%, minimum calcium 32%, maximum 36%, maximum fluorine .18% $71.80 (or $3.99 per unit of P), f.o.b. Wales in 100 lb. multiwall bags, $3 less in bulk.

Butte, Mont.: Minimum phosphorus 18%, minimum calcium 32%, maximum calcium 36%, maximum fluorine .18%, $81 (or $4.50 per unit of P), f.o.b. Butte, 100 lb. multiwall bags; bulk $73; truck lots of less than 10 tons $10 more, bagged or bulk.

Houston: Minimum phosphorus 19%, minimum calcium 32%, maximum calcium 35%, maximum fluorine .19% $74.35 net ton, f.o.b. Houston, 100 lb. multiwall bags; $71.35 bulk.

Cincinnati: 18% phosphorus $81.02; 14% phosphorus $71.03, f.o.b. Cincinnati.

Portland: Demand fair; supply adequate; trend unchanged; $93.50 for product carrying a minimum of 18% phosphorus, 31.5% calcium and a maximum of 0.1% fluorine; $92, dock for a minimum of 10 ton lots.

DICALCIUM PHOSPHATE

Trenton, Mich.: 18½% P $33, bulk, boxcar/hopper car; $36, bagged, in carloads or truck loads; $96 bagged, in less than carload lots; 21% P, $94.65, bulk, boxcar/hopper car; $97.64, bagged, in carloads or truck loads; $107.65, bagged, less than carload; all prices f.o.b. Trenton, freight equalized with nearest producing point.

Chicago: Bulk 18.5% phosphorus, carlots or trucks $83; 20,000 lb. or more $86 net ton in 100 lb. papers; less than 20,000 lb. $96, basis Chicago Heights, Ill., or Nashville, Tenn.; 21% phosphorus, carlots or trucks, bulk $94.65; 20,000 lb. or more, per net ton in 100 lb. papers, $97.65 and less than 20,000 lb., $107.65, basis Chicago Heights, Ill., or Nashville, Tenn.

Bonnie, Fla.: Minimum phosphorus 18½%, granular, $86 (or $4.65 unit of P), freight equalized from nearest producing point, carload basis; bulk carloads $3 less; in truck loads of less than 10 tons, $10 more. Western slope prices, for delivery at established railroad stations and by truck at regular feed mixing plants: California, Arizona, Nevada and Utah, $99.90; Washington, Oregon, Montana and Idaho, $107.15; bulk carloads $3 less; truck loads less than 10 tons, $10 more.

Columbia, Tenn.: Minimum phosphorus 18.5%, minimum calcium 24% $86, f.o.b. Columbia, in 100 lb. multiwall bags; freight equalized with nearest producing point, carload basis; bulk $3 ton less.

Texas City, Texas: Minimum phosphorus 18.5%, minimum calcium 20%, maximum calcium 23%, maximum fluorine .12%; carload and truck load $80.50, sacked in 100 lb. multiwall bags, bulk $77.50, f.o.b. Texas City.

Cincinnati: 18½% phosphorus $93.15, f.o.b. Cincinnati.

Denver: Demand and supply good; trend steady; $93.50, delivered.

DISTILLERS DRIED GRAINS

Buffalo: Demand fair to good; trend steady to higher; supply poor; $65, Boston.

Cincinnati: Demand fair; trend steady; supply adequate; $60.

Philadelphia: Demand slow; supply light; dark $64.50.

Louisville: Demand fair; trend steady; supply light; bourbon grains, light $55, dark $57, solubles $73, all sacked.

Boston: Demand steady; supply very scarce; $63, nominal.

San Francisco: Demand fair; supply ample; solubles $79, sacked.

Seattle: Demand fair; trend firm; none available; $69, delivered truck lots, sacked.

DRIED BEET PULP

Seattle: Demand good; trend firm; supply ample; $52, delivered carlots, sacked.
Portland: Demand fair; supply ample; trend unchanged; $48.60, sacked.
San Francisco: Demand good; supply fair; $40.80.
Milwaukee: Demand and supply fair; trend unchanged; old crop, plain $74.50, molasses $71; new crop, plain or molasses $51.50; all Chicago basis.
Boston: Demand active; supply scarce; $58, sacked.
Los Angeles: Demand steady; trend stronger; supply adequate; $47.90.
Atlanta: Demand fair; trend stronger; supply limited; $60.71, sacked, delivered.
Buffalo: Too scarce to quote.
Ogden: Supply good; $39@45.
Ft. Worth: Demand fair; offerings light; plain $58.90, sacked, 50 lb. bags, October.
Denver: Demand fair; trend steady; supply ample; $63, f.o.b.

DRIED BUTTERMILK

Ogden: Supply normal; $17.25 cwt.
San Francisco: Demand fair; supply ample; 13½¢ lb., sacked.
Chicago: Demand slow; trend unchanged; supply ample; medium acid $11.25@11.75 cwt., sweet cream $11.25@11.75 cwt., both sacked.
Los Angeles: Demand slow; supply adequate; trend steady; 13¼@13¾¢ lb., sacked.
Boston: Demand light; supply short; 14¢ lb.
Louisville: Demand slow; trend steady; supply normal; $12@12.50 cwt., sacked.
Buffalo: Demand fair; trend steady; supply ample; $12.35 cwt.
Milwaukee: Demand and supply limited; trend unchanged; $12@12.25 cwt.

DRIED CITRUS PULP

Boston: Demand spotty; supply tight; $47.50, sacked, November.
Atlanta: Demand good; trend steady; supply limited; pulp $47.50@52, sacked, f.o.b. Florida processing plants; meal $40@42.50, sacked, Florida plants.
Los Angeles: Demand and trend steady; supply moderate; orange pulp $43, lemon pulp $41.
Buffalo: Too scarce to quote.
San Francisco: Demand and supply fair; $48, sacked.

DRIED SKIM MILK

Minneapolis: Good demand; supply short; price up again from 12¢ to 12½¢ lb.
San Francisco: Demand and supply fair; 14½¢ lb., sacked.
Portland: Demand fair; trend steady; supply ample; 13¢ lb.
Milwaukee: Demand and supply limited; trend unchanged; $12.75 cwt.
Ogden: Supply good; $15.15, 100 lb. drum.
Los Angeles: Demand and supply limited; trend steady; 15¢ lb., less than ton lots; 14¾¢ lb., ton lots; both sacked.
Philadelphia: Demand slow; supply fair; $13 cwt.
Louisville: Demand slow; trend steady; supply light; $12.50@13 cwt., sacked.
Buffalo: Demand fair; trend steady; supply ample; $13.85 cwt.
Cincinnati: Demand fair; trend steady; supply adequate; 12@13¢ lb., sacked.
Boston: Demand good; supply scarce; 12¼¢ lb.
Chicago: Demand improved slightly; trend higher; supply fair; $11.75@12.25 cwt., sacked.
Omaha: Demand good; trend strong; supply short; 12¢ lb.

DRIED WHEY

Minneapolis: Demand fair; supply ample for nearby; price unchanged at $5.45 cwt.
Seattle: Demand steady; trend easy; supply good; $5.85 cwt., ex-warehouse, l.c.l.
Chicago: Demand quiet; trend steady; supply fair; $5.25 cwt., sacked.
Louisville: Demand dull; trend steady; supply light; $5 cwt., sacked.
Philadelphia: Demand slow; supply fair; $6.25 cwt.
Boston: Demand and supply good; 5¼¢ lb.
Cincinnati: Demand fair; trend steady; supply adequate; $5.75 cwt., sacked.
Los Angeles: Demand and trend steady; supply adequate; $5.18 cwt., carloads; $5.35 cwt., l.c.l.; both sacked.
Ogden: Supply ample; $6.90, 100 lb. bag.
San Francisco: Demand steady; supply good; $5.25, sacked.
Portland: Demand fair; supply ample; trend unchanged; $5.95 cwt., sacked.
Ft. Worth: Demand fair; supply adequate; carlots, standard $5.50, sacked, delivered Ft. Worth; ton lots $5.75, f.o.b. warehouse Ft. Worth.
Denver: Demand fair; trend steady; supply ample; $5.75, delivered truck.
Kansas City: Demand fair; trend steady; supply adequate; regular or partially delactosed $5 cwt., sacked.
Omaha: Demand good; trend fair; supply plentiful; $5 cwt.

FEATHER MEAL (HYDROLYZED)

Boston: Demand and supply fair; $69, f.o.b. shipping point.
Atlanta: Demand slow; trend weak; supply good; $68, f.o.b. Georgia and Alabama processing plants.
Los Angeles: Demand fair; trend steady; supply adequate; $1 a unit of protein, sacked.
Ft. Worth: Demand slow; supply sufficient; 85%-87% protein $70, sacked, f.o.b. trucks north Texas plant.
Salisbury, Md.: Demand spotty; excess supply; $70, f.o.b.

FISH MEAL

Chicago: Demand moderate; supply good; trend steady to easier; sacked: menhaden, East Coast $90@93, Gulf $90@93; menhaden scrape, East Coast $86@89, Gulf $86@89; Canadian herring meal $1.55 a unit of protein.
Louisville: Demand slow; trend steady; supply light; $110, sacked.
Buffalo: Demand fair; trend steady; supply ample; 60% protein menhaden $103 bulk, $108 sacked.
Atlanta: Demand good; trend steady; supply ample; 60% menhaden $90@92.50, sacked, f.o.b. Atlantic and Gulf ports.
Los Angeles: Demand moderate; trend steady; supply light; local production, 60% protein $1.56 a unit, sacked.
Minneapolis: Demand fair; supply ample; West Coast 60% blended up slightly to $117@118, sacked, delivered; Alaskan herring up from $1.52 to $1.55 a unit, and Canadian steady at $1.55 a unit, both f.o.b. West Coast, subject to production.
Cincinnati: Demand fair; trend steady; supply adequate; $108.60.
Boston: Demand fair; supply ample; 60% menhaden $90, sacked; 57% red fish $88, sacked.
San Francisco: Demand slow; supply ample; $1.50 a unit of protein.
Milwaukee: Demand fair; trend firm; supply good; $115, sacked, Chicago basis.
Ogden: Supply good; $1.05 a unit, f.o.b. Coast; 65% $105@108.
Portland: Demand fair; trend lower; supply ample; imported Peruvian herring $1.55 a protein unit, sacked.
Seattle: Demand and supply fair; trend firm; $1.70 a unit protein, ex-dock Seattle, sacked (Alaskan production).
Ft. Worth: Demand fair; supply of Peruvian limited, menhaden sufficient; sacked: 65% protein, Peruvian $94.50, October; 60% protein menhaden $102, delivered Ft. Worth.
Denver: Demand fair to good; trend steady; supply ample; $1.54 a protein unit, f.o.b. West Coast.
Omaha: Demand good; trend strong; supply plentiful; 60% menhaden $110, f.o.b. Omaha.

HAY

Louisville: Demand slow; trend steady; supply good; new hay taking over; local and nearby hay, any variety, No. 1 $28@30, No. 2 $26@28, straw $18@20.
Philadelphia: Demand slow; supply light; $26.50.
Los Angeles: Demand slow; trend steady; supply ample; U.S. No. 1 $33@35; U.S. No. 2 leafy $29.50@31; U.S. No. 2 green $31@32; U.S. No. 2 $27@28.
Cincinnati: Demand good; trend steady; supply tight; No. 1 timothy $30; No. 2 timothy $27; No. 1 red clover $32; clover mixed with straw $27.
Wichita: Demand good; supply sufficient; prairie $21@23, alfalfa $22@25, baled.
Portland: Demand slow; trend steady; supply plentiful; mostly $34, baled, Portland and Seattle.
Ogden: Supply good; $22 in the field; $25 in the barn.
Seattle: Demand fair; trend firm; supply good; alfalfa U. S. No. 2 green $34, delivered truck lots.
Ft. Worth: Demand fair for alfalfa, practically nil for others; supply sufficient; carlots, baled, No. 1 alfalfa $40@42; No. 2 $38@40; No. 2 prairie, nominal $30@32; No. 2 Johnson, nominal $28@30, delivered Texas common points.

HOMINY FEED

Chicago: Demand fair; trend firm; supply moderate; $40.50.
St. Louis: Demand slow; trend firm; supply ample; yellow $39.50.
Memphis: Demand poor; trend steady to lower; supply ample; white $41.70, yellow $41.70.
Boston: Demand fair; supply tight; $52.
Buffalo: Demand fair; trend steady to higher; supply fair to poor; $52.50, Boston.
Cincinnati: Demand poor; trend higher; supply fair; $44.
Louisville: Demand nil; trend steady; supply light; $47.50, sacked.
Seattle: Demand fair; trend steady; none available; $54, delivered carlots.
Kansas City: Demand good; trend strong; supply scarce; yellow $34@34.50, white $33@33.50.
Milwaukee: Demand good; trend strong; supply fair; $47.50 sacked, $43 bulk, both Chicago basis.

LINSEED OIL MEAL

Minneapolis: Firm market; 34% solvent up slightly to $50; 32% expeller, steady at $56.50.
Wichita: Demand fair; supply ample; 34% $78, sacked.
Los Angeles: Demand and trend steady; supply limited; local production, 31% protein $71, new crop.
Cincinnati: Demand poor; trend steady; supply adequate; new process $51; old process $57; both Minneapolis basis.
Boston: Demand slow; supply light; $68.
Louisville: Demand slow; trend steady; supply light; old process $75, new process $70, both sacked.
Philadelphia: Demand slow; supply light; 34% $67.75.
Seattle: Demand fair; trend steady; supply good; 34% protein (Montana) $85, delivered car loads, sacked.
San Francisco: Demand fair; supply ample; $69.50.
Portland: Demand slow; trend lower; supply adequate; $81.50, sacked.
Chicago: Demand better; trend higher to steady; supply moderate; Minneapolis basis: solvent $50.50, expeller $56.50.
Kansas City: Demand slow; trend steady to stronger; supply adequate; solvent process $50@50.50; old process $56@56.50; both Minneapolis basis.
Ft. Worth: Demand slow; supply sufficient; 34% protein, solvent $66.70, October; $69.70, November-December.
Denver: Demand slow; trend steady; supply ample; $68.80, sacked.
Omaha: Demand fair; trend steady; supply ample; 34% solvent $56.50; 36% old process $61.80, Omaha basis.

LIVER AND GLANDULAR MEAL

Omaha: Demand and trend fair; supply plentiful; 65% $175, sacked, Omaha.

MALT SPROUTS

Chicago: Demand fair; trend steady; supply light; No. 1 uneven bags $40.
Cincinnati: Demand fair; trend steady; supply adequate; No. 1 $42.60.
Boston: Demand and supply limited; $48, nominal, sacked.
Milwaukee: Demand good; trend firm; supply limited; $36 bulk; uneven bags $41; even bags $44.

MEAT AND BONE MEAL

St. Paul: Demand slow; supplies ample; price down from $72@75 last week to $70@74.
Wichita: Demand good; supply sufficient; 50% $80, sacked, f.o.b. plant.
Chicago: Demand slow; trend firm; supply fair; 50% protein $77.50, sacked.
Louisville: Demand dull; trend weak; supply good; $70@75, sacked.
Boston: Demand steady; supply adequate; $1 a protein unit; converted, 50% $62.50.
Buffalo: Demand fair; trend barely steady; supply light; 50% meat scraps $67.50 bulk, $72.50 sacked.
Los Angeles: Demand improved; trend steady; supply moderate; 50% protein $1.40 a unit.
Cincinnati: Demand good; trend better; supply fair; 50% meat and bone scraps $70, Cincinnati.
St. Louis: Demand slow; trend steady; supply ample; $68.
Ogden: Supply good; 50% protein $75 in 100 lb. bags.
San Francisco: Demand fair; supply ample; $1.40 a unit of protein.
Kansas City: Demand slow; trend easy; supply ample; 50% $67.50.
Seattle: Demand good; trend easy; supply ample; $1.40 a unit protein, ex-processing plant.
Portland: Demand moderate; trend lower; supply adequate; $67.50, sacked.
Ft. Worth: Demand poor; supply sufficient; meat and bone, 50% $67.50 bulk, $70.50 sacked, f.o.b. Ft. Worth.
Denver: Demand fair; trend steady; supply ample; $62.50 bulk, $65 sacked.
Omaha: Demand and supply good; trend stronger; $75.

MILLFEED

Minneapolis: Bran and middlings both up $2 to $35, sacked; demand for red dog has boosted price $1 to $42.50@43, sacked.
Kansas City: Demand good; supply tight; trend strong; sacked, bran $36@36.50, shorts $36@36.50; bulk, bran $32.50@33, shorts $33.50@34, middlings $33.50@34.
Wichita: Demand strong; supply adequate; Oct. 10, basis Kansas City: bran $34.75@35.25, shorts $34.75@35.25; both bran and shorts advanced $2.50, compared with the preceding week.
Ft. Worth: Demand good; supply sufficient; bran, bulk $39.60, burlaps $42.10; gray shorts, bulk $40.60, burlaps $42.10; bulk middlings $40.60, delivered Texas common points; bulk bran $2.10 higher, bulk shorts and middlings $2.60 higher; sacked bran and shorts $1.10 higher, compared with previous week.
St. Louis: Demand slow; trend firm; supply ample; sacked, bran $40, shorts $40; bulk, bran $34, middlings $38.
Omaha: Demand good; trend strong; supply tight; sacked bran $37, sacked gray shorts $37, bulk standard midds. $35, all Omaha basis.
Cincinnati: Demand fair; trend steady; supply adequate; bran $38, middlings $39.
Boston: Demand active; supply adequate; bran $44.50, middlings $46.
Buffalo: Prices generally advanced. Sacked differential on bran and middlings widened out from $5.50 to $6.50 as sacked demand tended to hold up, while bulk eased. Bulk bran ended $1 higher, and sacked was up $2; bulk middlings rose $2.50 and sacked advanced $3.50. Red dog held unchanged. Oct. 12 quotations: bulk bran $35@36, sacked $41.50@42.50; bulk middlings $37@38, sacked $44; bulk red dog $44@44.50, sacked $48.50@49.
Philadelphia: Demand slow; trend unsettled; supply fair; bran $42.90, standard midds. $44.40, red dog $51.50.
Memphis: Demand poor to fair; trend steady to higher; supply ample; wheat bran $38.70, gray shorts $38.70, standard midds. $39.70.
Louisville: Demand fair; trend very strong; supply good; bran $46.10, mixed feed $46.60, shorts $47.60, all sacked.
Seattle: Demand fair; trend firm; supply ample; $38, delivered common transit points, carlots.
Portland: Demand good; trend, stronger undertone; supply fair; mostly $37.
Ogden: Supply ample; to Utah and Idaho: red bran and millrun $37, middlings $42; to Denver: red bran and millrun $44, middlings $49; to California: red bran and millrun $44.50, middlings $49.50, f.o.b. San Francisco and Los Angeles.
Denver: Demand active; trend upward; supply tight; shorts $39.75, bran $39.75, millrun $39.75.
Los Angeles: Demand improved; trend firmer; supply lighter; standard millrun $46, red bran $49@50.
San Francisco: Demand good; supply fair; millfeed $44, red bran $46.

MINERAL FEED

Ft. Worth: Demand fair; supply adequate; all-purpose granules $90, block $70; mineral phosphorus granules $106, block $113; cattle-sheep mineral 7% phosphorus granules $100, block $107; hog mineral phosphorus 3½% granules, $87, phosphorus 2% $77 (all in 50 lb. paper bags).
Sioux City: 50 lb. mineral blocks 8.2% phosphorus $92; 7.5% phenothiazine sheep mineral blocks $4 each.
Portland: Demand fair; supply ample; trend unchanged; $44@45, sacked.
Wichita: Demand good; supply sufficient; all-purpose with iodine, 50 lb. blocks $97.50; 100 lb. bags $92.50, f.o.b. plant.
Ogden: Supply good; $113 ton in 50 lb. blocks; $103 ton, granular, 50 lb. bags.
San Francisco: Demand steady; supply good; all-purpose with iodine $70, sacked.
Seattle: Demand fair; trend steady; supply good; mixer-mineral $48, all-purpose mineral $85, both ex-warehouse, sacked.

MOLASSES

Minneapolis: Some price rise in face of strong demand; blackstrap $31, tank truck, delivered; beet $28; blend $29.50.
Denver: Demand fair; trend firm; supply ample; 11½¢ gal., New Orleans; $34.66 ton, Denver.
St. Louis: Demand slow; trend firm; supply adequate; 12¼¢ gal., tank car, New Orleans.
Los Angeles: Demand fair; trend steady; supply adequate; $22.50, f.o.b. tank cars; $22.75, f.o.b. tank trucks.
Buffalo: Demand fair; trend steady; supply adequate; 14¢ gal., f.o.b. Albany.
Atlanta: Demand fair; trend steady; supply limited; citrus $18@20, f.o.b. Florida processing plants.
Cincinnati: Demand good; trend steady; supply adequate; 12@12½¢ gal., New Orleans.
Boston: Demand cautious; supply plentiful; 14¢ gal. in tank cars.
Memphis: Demand fair; trend steady to higher; supply ample; blackstrap 11½@12½¢ gal., tank car, f.o.b. New Orleans, and $27.07 ton, delivered Memphis, truck.
San Francisco: Demand and supply good; $22.50, f.o.b. cars Richmond, Cal.
Kansas City: Demand fair; trend steady; supply ample; blackstrap 12@12½¢ gal., f.o.b. New Orleans.
Seattle: Demand and supply good; trend firm; $22.75, f.o.b. Seattle, tank truck lots.
Ft. Worth: Demand fair; supply sufficient; blackstrap 12¾¢ gal., f.o.b. Houston; delivered Ft. Worth truck $28.07 seller's market price on date of shipment.

OAT PRODUCTS

Minneapolis: Demand only fair; rolled down $1 to $73, sacked; oatmeal steady at $83, sacked; pulverized down 50¢ to $41, sacked; crimped steady at $59, sacked; reground oat feed down to $18.
Seattle: Demand good; trend firm; supply fair; oat feed $55, delivered truck lots, 38 lb. or better.
Portland: Demand fair; trend steady; supply moderate; white oats, No. 2 extra heavy $53@56.
Louisville: Demand slow; trend easy; supply normal; reground $26.30, rolled oats $79.80, feeding meal $75.30, pulverized $51.30, crimped $64.30, all sacked.
Los Angeles: Demand very slow; trend steady; supply ample; local production, pulverized $67, sacked.
Philadelphia: Pulverized white, demand slow, supply fair $48.50; domestic demand slow, supply light $25.80; Canadian oat feed demand slow, supply light $29.50, sacked, nominal.
Cincinnati: Demand poor; trend steady; supply adequate; pulverized white $45@52.50.
Boston: Demand slow; supply adequate; white pulverized $54.50, reground oat feed $29.50, both sacked.
Memphis: Demand poor; trend steady; supply ample; 3½% protein, reground oat feed $25.75.
Chicago: Demand and supply fair; trend steady; reground oat feed $16; No. 1 fine ground feeding oatmeal $71; feeding rolled oats $75.
Ft. Worth: Demand slow; supply sufficient; 10% protein oat millfeed $42.20; reground $27.20, sacked.

OYSTER SHELL

Louisville: Demand slow; trend steady; supply good; in 80 lb. paper sacks $23.45, in 50 lb. paper sacks $23.70, in 25 lb. paper sacks $25.95; an increase is expected before Nov. 1.
Los Angeles: Demand steady; trend unchanged; supply ample; $15.40, sacked.
Cincinnati: Demand fair; trend steady; supply adequate; 80 lb. bags $23.85; 50 lb. bags $24.10, 25 lb. bags $26.35.
Boston: Demand and supply steady; in paper $26.05.
San Francisco: Demand fair; supply ample; local $15, eastern $26, sacked.
Portland: Demand fair; supply adequate; trend unchanged; $27@35, sacked.
Seattle: Demand and trend steady; supply good; eastern $36, delivered carlots, sacked.

PEANUT OIL MEAL

Atlanta: Demand fair; trend steady; none available; 45% $55, Georgia and Alabama, for expeller; $51 for solvent, Georgia and Alabama producing mills.
Milwaukee: Demand and supply fair; trend unchanged; 26% $47 sacked, $40 bulk, both Chicago basis.

PEAT MOSS

San Francisco: Demand and supply fair; $3.65 bale.
Portland: Demand limited; trend unchanged; supply ample; $3@3.15 per 5.6 cu. ft. bale.
Chicago: Demand and supply fair; trend firm; standard 7½ cu. ft. bale $3.80.
Boston: Demand and supply seasonally steady; $3.15 bale in carlots.
Los Angeles: Demand steady; trend unchanged; supply ample; Canadian 5.6 cu. ft. bales $3.65@3.70.
Philadelphia: Demand slow; supply fair; $2.85 bale, f.o.b. pier.
Cincinnati: Demand and supply good; trend steady; truck loads $3.45 bale, f.o.b. Cincinnati.
Seattle: Demand fair; trend firm; supply good; $2.85 a bale, delivered truck lots.

POTASSIUM IODIDE (U.S.P.)

Chittenango, N.Y.: Demand good; trend firm; supply ample; standard blends, 90% KI, 10% stearate or carbonate mixture: 100 lb. drums $1.25½ lb.; 200 lb. and up $1.23½ lb., all delivered.
Cincinnati: Demand good; trend steady; 90% KI in calcium stearate or carbonate mixtures: 250 lb. drums $1.35; 200 lb. in 100 lb. drums $1.35; 100 lb. drums $1.38; 25 lb. drums $1.41, f.o.b. Cincinnati.

POULTRY BY-PRODUCTS

Ft. Worth: Demand good; supply extra light; 55% protein $77.50, nominal, sacked, f.o.b. north Texas plants.
Salisbury, Md.: Meal $77, f.o.b.; demand good, supply ample.
Boston: Demand fair; supply tight; $70, f.o.b. shipping point.
Atlanta: Demand fair; trend steady; supply ample; meal $69, f.o.b. Georgia and Alabama processing plants.
Los Angeles: Demand fair; trend steady; supply adequate; $1.25 a unit of protein, sacked.

RIBOFLAVIN

Cincinnati: Trend steady; feed grade (in feed supplements) 4¢ gram in less than ton lots in 3.36 to 16 gm./lb. mixtures; 3¢ in ton lots or more; freight prepaid or paid to destination.

RICE BY-PRODUCTS

Los Angeles: Demand limited; trend steady; supply very limited; California production, high fat content, bran $49@50, sacked.
San Francisco: Demand good; supply ample; bran $40, sacked.
Ft. Worth: Demand good; supply scarce; rice bran $34@35, f.o.b. south Texas rice mills, sacked; hulls $4.50, sacked, f.o.b., October delivery.

For DEHYDRATED ALFALFA—

"MERRY MIXER" GREENULES®

BETTER DISPERSION!
DUST-FREE! FREER FLOWING!
MORE UNIFORM!

CONSOLIDATED BLENDERS INC.

Fremont, Nebr. • Phone Park 1-7000 ®TRADE MARK
Guntersville, Alabama • Phone JUstice 2-3186

SCREENINGS

Minneapolis: Prices unchanged; Canadian $21, Duluth; domestic ranges: lights $8@12, mediums $13@20, heavies $21@30; 15% flax screenings $35.

Buffalo: Demand and supply fair; trend steady; ground, sacked $35.75, New York, lake and rail; unground, bulk $30, New York.

Cincinnati: Demand fair; trend higher; supply adequate; unground grain screenings $24@25, Cincinnati.

Chicago: Demand good; trend steady to higher; supply moderate; ground grain $32.90; Canadian $26.40.

SOFT PHOSPHATE WITH COLLOIDAL CLAY

(Sacked)

Atlanta: $20.40@20.67.
Buffalo: $25.31@25.45.
Chicago: $24.77@24.90.
Cincinnati: $23.47@23.60.
Des Moines: $25.23@25.35.
Kansas City: $24.88@25.
Memphis: $22.20@22.47.
Minneapolis: $25.93@26.06.
Philadelphia: $24.32@24.95.
St. Louis: $24.14@24.37.

SORGHUMS

Los Angeles: Demand and trend steady; supply ample; milo $2.03% cwt.

Ogden: Supply good; milo $41@43.

Seattle: Demand fair; trend easy; supply good; milo $45, delivered carlots.

Ft. Worth: Demand fair; offerings light, most new crop going into government loan; No. 2 yellow milo $1.86@1.88 cwt., delivered Texas common points.

SOYBEAN OIL MEAL

Denver: Demand fair; trend firm; supply ample; 44% $61, Denver.

Omaha: Demand fair; trend easy; supply ample; 44% $51.50, delivered Omaha.

Minneapolis: Prices still going down as new crop comes in; 44% down from $44.50 to $42.50, Decatur; 50% solvent down from $50.50 to $48.50, Decatur.

St. Louis: Demand slow; trend easy; supply ample; $51.50.

Louisville: Demand fair; trend easy; supply good; $59.90, sacked.

Cincinnati: Demand fair; trend steady; supply adequate; $49, Decatur.

Boston: Demand fair; supply ample; 44% $47, 50% $51, both f.o.b. Decatur.

Los Angeles: Demand slow; supply increased; $71.40.

Atlanta: Demand good; trend steady; supply ample; 44% $56.50, delivered.

Philadelphia: Demand and supply fair; 44% $47.50, Decatur.

San Francisco: Demand fair; supply ample; $71.90.

Milwaukee: Demand fair; trend weaker; supply fair; $49@49.50, Decatur (depending on territory).

Wichita: Demand good; supply ample; 44% $62, 50% $68, sacked; 44% $59, 50% $65, bulk, f.o.b. Wichita.

Ogden: Supply ample; 41% protein $69@71; 50% protein $73@75.

Memphis: Demand poor; trend weak; supply ample; prime 44% solvent $53, f.o.b. Memphis.

Kansas City: Demand good; trend steady; supply adequate; 44% solvent process $47@47.50, Decatur.

Seattle: Demand good; trend easy; supply ample; $75, delivered carlots.

Ft. Worth: Demand fair; supply sufficient; 44% $59.50 October, $60.50 November-December; 50% $64.30 October, $65.30 November-December.

TANKAGE

Omaha: Demand and supply good; trend stronger; $75.

St. Paul: Demand slow; supplies ample; price weaker at $70@74.

Wichita: Demand good; supply sufficient; 60% $80, sacked, f.o.b. plant.

Cincinnati: Demand slow; trend steady; supply fair; 60% digester $70, Cincinnati.

Louisville: Demand slow; trend steady; supply good; 60% $70@75, sacked.

Chicago: Demand quiet; trend steady; supply fair; 60% protein $77.50, sacked.

Kansas City: Demand slow; trend easy; supply ample; 60% digester $67.50.

St. Louis: Demand slow; trend steady; supply ample; $69.

Ft. Worth: Demand fair; supply inadequate; 60% digester $75, sacked, Ft. Worth.

UREA FEED COMPOUND

Lima, Ohio: Minimum 42% nitrogen, 262% protein equivalent $100, f.o.b., bagged.

Pryor, Okla.: Minimum 42% nitrogen, 262% protein equivalent; $100, f.o.b., bagged; $96, bulk, cars or trucks, freight equalized with nearest producing point.

New York: Minimum 42% nitrogen, 262% protein equivalent, $100, f.o.b., bagged; $96, bulk, cars or trucks, freight equalized with nearest producing point.

Belle, W. Va.: Minimum 42% nitrogen, 262% protein equivalent $100, f.o.b., bagged; $96, bulk, cars or trucks, freight equalized with nearest producing point.

Woodstock, Tenn.: Minimum 42% nitrogen, 262% protein equivalent; $100, bagged, f.o.b., freight equalized with nearest producing plant; bulk $96.

VEGETABLE AND ANIMAL FAT (HYDROLYZED)

Ft. Worth: Demand good; supply limited; 5¢ lb., f.o.b. south Texas area.

VITAMIN E FEED SUPPLEMENT

Cincinnati: Demand good; trend steady; 50 lb. or more $1.40, less than 50 lb. $1.45, freight allowed to destination.

WHEAT GERM MEAL

Buffalo: Demand fair; trend higher; supply poor; commercial grade $31, sacked, f.o.b. Buffalo.

Minneapolis: Steady market; price unchanged; $75, jutes.

MILLFEED • FEED GRAIN
FEED INGREDIENTS
What Do You Need?
—Jerry Parks
633 Board of Trade
KANSAS CITY, MISSOURI

MANEY BROS.
MILL & ELEV. CO.
Minneapolis, Minnesota
Distributors in the Upper Midwest States for
SMALL'S DEHYDRATED ALFALFA MEAL

SMALL'S
DEHYDRATED ALFALFA
"For Feeds with a Future"
Archer-Daniels-Midland Co.
Alfalfa Division
P. O. Box 356 • Kansas City, Mo.

NEPPCO

(Continued from page 4)

product development: Eggnog as a year-round drink; orangegg, frozen French toast, frozen fried eggs and instant scrambled eggs.

He listed as the two biggest holes in the egg market picture, the cholesterol scare and the fact that about 18% of the consumers do not eat eggs as a rule for breakfast. He said that these two things mean a 25% loss of the egg market.

Mr. Thomas said that the important thing with these and other problems is to acknowledge their presence, and then act to eliminate them. "And we can't wait to get everybody started at the same time."

MARKETING ORDERS AS A TOOL TO IMPROVE PRICES FOR POULTRY PRODUCTS — Before marketing orders could be used, there would have to be a means of obtaining control of supply and flow of eggs in market channels, Prof. Thomas C. Morrison, University of Connecticut, observed.

Furthermore, he added, there must be an outlet to which the excess supply can be diverted. "For eggs, these are major problems."

Even if marketing orders were established on a regional or national basis, Prof. Thomas questioned that it would be practical to attempt to control the distribution of a product such as eggs.

He noted the large number of producers and handlers involved and that eggs do not have to pass through a bottleneck such as a processing plant.

Controlling the supply of broilers in market channels, he maintained, would be simpler because of a smaller number of firms and individuals controlling production in each area, the necessity of processing and the small number of broiler processing plants.

Prof. Morrison pointed out that a suggestion that reserve pools of frozen poultry or shell eggs be established to remove temporary surpluses from market channels would require a mechanism that could control production to such an extent that the supplies siphoned off into the reserve pool could later be released back into market channels.

Even if production could be controlled, other problems remain, said Prof. Morrison. Consumer preference for fresh eggs and fresh-killed broilers is well-known; the process of packing for storage, freezing and holding would increase product cost, over that of fresh goods.

Prof. Morrison agreed that a marketing order would make it possible for producers to work collectively toward expanding demand for their product through promotion and advertising.

"I do not want to minimize in any way the possible benefits which might be derived from such programs," he said. "However, the success which has been attained with such programs for other commodities has not been spectacular or of the magnitude necessary to solve poultrymen's problems."

THE WORLD IS OUR MARKET —Producers were urged to use the avenues that are open to them to bring foreign demand into direct contact with U.S. poultry dealers who sell U.S. poultry products. The speaker was David L. Hume, director of the Foreign Agricultural Service dairy and poultry division.

Mr. Hume noted that "the poultry industry has an exporting opportunity unique in its history." He said the Foreign Agricultural Service has made available in 11 countries almost $1 million to advertise and promote demand for U.S. poultry products so that sales can be made by private U.S. dealers.

"But the opportunity will not come to the poultry industry, unless it exerts some energy on its own and makes a modest investment to utilize the assistance of the Foreign Agricultural Service," he said.

Mr. Hume explained the FAS job is to gain entry for U.S. poultry products on a commercial basis and to maximize the number of U.S. markets and the amount of trading in as many countries as possible. "In this way, we minimize our risks and we keep in touch with the growth and expansion of markets anywhere in the world."

PLUG EGG PROFIT LEAKS FROM NEST TO KITCHEN—Costs from nest to consumer—which run about 9-12¢ a dozen—can be cut by about half, according to Harry E. Drews, Springfield, Mo., engineer and food technologist.

Mr. Drews believes that every step along the line from nest to consumer is equally important as a spot for economies and retention of table quality of eggs. "Too many firms are buying machinery and equipment just to do something new, and without fully measuring whether it will save egg quality or handling cost effectively," he said.

Slides were used to show advanced egg gathering systems, manure handling equipment, new egg cases, egg washers and graders and other advanced equipment.

POLICY COMMITTEE REPORT—A seven-point program that "will foster the development of a program for better organization and increased cooperation among all segments of the poultry industry" was backed by the policy committee of NEPPCO.

The end result desired by the program would be that "production and marketing will be on a sound, business-like basis, the bargaining power of producers improved and individual independence maintained throughout the industry."

Points listed by the committee were:

"We, as an industry, must exploit fully our marketing opportunities by encouraging quality production with price incentive, quality merchandising and intensified promotional activities.

"We must develop sound business management practices and enlist the aid of all agencies to encourage their adoption by poultrymen of the area.

"We must adopt sound financial principles in the handling of our business affairs and discourage indiscriminate credit policies that promote unwise expansion.

"We will encourage the development of cost-reducing housing, equipment, feeding and management practices that will not sacrifice productivity and livability of poultry nor require excessive outlays of capital.

"We urge the continuation and expansion of research in the field of new product development.

"We believe that the school lunch program is a worthwhile program, but that funds designed for the purchase of eggs and poultry should be allocated to the local schools.

"We believe that only during periods of economic disaster in this industry should purchases of surplus poultry products be made for relief distribution."

CHEMIST DIES

AURORA, COLO.—Lewis V. Labaree, 56, a chemist for the Colorado Department of Agriculture, died at his home here Oct. 7.

AAFCO

(Continued from page 1)

of his feeds, and how well they perform under field conditions."

The "thorny problem" of complying with rigid ingredient lists, Mr. Armstrong said, in least-cost feed formulation has a solution. "There is a way to be completely honest with our customers and yet take advantage of least-cost feed formulation whether done by hand or with a computer," he insisted. "There is a way to label formula feeds that would be equally fair to both large and small manufacturers. There is a way through the jungle to more realistic labeling laws."

He asked: "How can we develop a workable feed labeling plan and still stay flexible enough to deliver least-cost formulas?"

Proposal Presented

Here is the proposal which he and Nutrena believe will answer that question and which he presented "as the optimum goal toward which our combined groups should work":

"Registrations submitted to state feed control officials would generally be in keeping with the proposed addendum to Regulation 4 of the Uniform Feed Bill, and would include all ingredients a manufacturer would expect to use in that feed for the duration of the registration.

"The feed control official would have the authority to reject a registration if he believed it was unfairly represented or if it contained ingredients obviously unfit for the feed (for example, mixed screenings in a chick starter).

"Registrations for individual feeds would be required, just as they are now. The difference in this proposal and current practices is that the registration could contain more ingredients than would necessarily be found in the feed, but would include all ingredients that might be used. This would expand the ingredient list available to feed formulation men and make possible their more efficient use.

"The label would have the same drug statement and the same guarantees of protein, fat, mineral and fiber as currently required, for there are no other universally accepted units of measure to describe the limits that affect results. The big change would be that the ingredient list would be dropped from the label."

In backgrounding reasoning which went into his proposal, Mr. Armstrong said, "Since there are no ingredients essential to a given feed, why tempt anyone to misrepresent a product as being superior because it contains ingredient 'X'? Why permit an ingredient tag to be abused by parading a long list of impressive sounding names?

"During seasons when an ingredient was not available or priced too high, its use would not be required in the formula. But, most important, the customer would know he was getting the lowest possible cost ration and that it would meet specifications the year around; and the feed industry would be relieved of the burden of maintaining duplicated inventories of bags and tags."

"Extra Burden"

Mr. Armstrong added: "We agree that this program puts an extra burden on the feed manufacturer. He must have the right feed requirements for every feed, and he must know exactly what the values are for each ingredient. But isn't this our job? Isn't it proper that our prosperity should depend on performance and the ability to sell it?

"If this is our responsibility, and we believe most earnestly it is, then we propose we also be given the right to manufacture finished feeds to total feed requirements—not an inflexible ingredient list."

Mr. Armstrong also recognized that his proposal could mean a change in feed control laws in nearly every state. "It is not intended to reduce

the authority of feed control officials, nor will it reduce their work load a great deal," he said, "but it will make their job easier, more pleasant and, most important, more effective.

"This proposal is not intended to hide necessary information, to mask an intent to misrepresent nor to benefit any special group among us. We feel this proposal will benefit all feed manufacturers, large and small, whether they use computers or not.

"We present it as a fair and impartial solution to an increasingly important question. It has as its sole purpose making available to the feeder the most profitable products our industry can devise plus simplifying the job of control officials and feed manufacturers without sacrifice of control.

"We believe this proposal can be the launching pad for a program that will make labeling laws as modern as the rest of this great feed industry, and we're certain that cooperative effort by feed control officials, Food and Drug Administration officials and the feed industry can and will solve the issue."

DEFINITIONS

(Continued from page 1)

feed labeling committee, the Antibiotic Feed Supplement definition in AAFCO's official publication was deleted.

This change was explained to mean that there no longer is a standard definition for an antibiotic feed supplement and that the actual antibiotic must be listed as an ingredient.

Soybean Products

Added to the Soybean Mill Feed definition was this statement: "It shall contain not less than 13% crude protein and not more than 32% crude fiber and be placed in tentative status."

The word "oil" was deleted from the definition of Solvent Extracted Soybean Feed. The definition now reads that the ingredient "is the material resulting from the partial removal of protein and nitrogen-free extract from dehulled solvent extracted soybean flakes." The earlier definition said "dehulled solvent extracted soybean oil flakes."

AAFCO ruled that definitions of Soybean Oil Cake and Soybean Oil Chips; Soybean Oil Meal; Solvent Extracted Soybean Oil Flakes; Soybean Cubes, Soybean Pellets or Soybean Pea Size be combined into this new definition (without the word "oil"):

"Soybean Meal is the product obtained by grinding the Cake, Chips or Flakes which are products obtained by removal of most of the oil from soybeans by several methods, hydraulic, expeller and solvent extracted, respectively.

"The name must include one of the terms 'Hydraulic,' 'Expeller' or 'Solvent Extracted' to indicate the method of manufacture of the source material.

"Heat shall be applied during the process. It may be sold in various physical forms other than 'Meal,' such as 'Cubes,' 'Pellets,' 'Pea Size,' 'Cake,' 'Chips' or 'Flakes.'

"It must be designated and sold according to its protein content and shall contain not more than 7% crude fiber and that this be placed in tentative status."

Another combination definition was approved, namely one involving Dehulled Solvent Extracted Soybean Flakes and Dehulled Solvent Extracted Soybean Oil Meal.

The new definition reads: "Dehulled solvent extracted soybean meal is the product obtained by grinding flakes which are obtained by removing most of the oil from dehulled soybeans. Heat shall be applied during the process. It must be designated and sold according to its protein content and must not contain more than 3% crude fiber. Place in tentative status."

The new tentative definition for Soybean Mill Run states that it "is the product resulting from the manufacture of dehulled soybean meal and is composed of soybean hulls and such bean meats that adhered to the hull in normal milling operations."

Also stated in the new definition is the requirement that the product contain not less than 11% crude protein and not more than 35% crude fiber.

Approval was granted the executive committee's recommendations that the current tentative definition for feeding cane molasses be retained pending the initiation and completion of nutritional work as proposed by industry representatives.

A complete transcript of new definitions and definition changes approved by AAFCO will appear in a subsequent issue of Feedstuffs.

RESPONSIBILITIES

(Continued from page 1)

must have a mutual understanding of problems.

A recommendation that an AAFCO committee be organized to work with the Office of Civil Defense and Mobilization to prepare for the possibility of a nuclear war was entered into the convention's proceedings by Marvin H. Snyder of Charleston, W. Va., AAFCO president during the past year.

"We must assume added responsibility in this atomic age," he said. "We must be prepared for nuclear war."

Mr. Snyder indicated that considerable thought should be given to an emergency plan for feed inspection in the event of nuclear attack.

Effective Controls

Mr. Glennon outlined criteria for effective feed control:

1. Laws should be favorable to both producers and consumers.
2. Laws should be administered by able and qualified personnel.
3. Adequate funds must be available to accomplish necessary goals. Mr. Glennon said no feed control law should be established merely for raising revenue. "Any funds collected should be used to administer the laws," he said.
4. Adequate equipment and personnel should be provided for.
5. Adequate and proper sampling are necessary.
6. Publication of inspection results is of great value.
7. Active participation of AAFCO in feed control is desired.

Mr. Glennon noted that he had conferred with George Larrick, head of the Food and Drug Administration, just before addressing the AAFCO convention and learned that Mr. Larrick is hopeful that most feed control necessary can continue to be done at the state level.

PURINA

(Continued from page 1)

venture will be known as the Brand-Purina Co.

It was announced that many organizational matters are still to be completed and Ralston Purina did not divulge the amount of money involved in the transaction.

Mr. Danforth described the Brand company, which has its home mill at Krefald on the Rhine in west central Germany, as "a growing, progressive enterprise with an outstanding reputation in that country."

He added that the joint venture anticipates further expansion through the construction in 1961 of new plant facilities.

Mr. Danforth pointed out that underlying this expansion is the tremendous progress made by West Germany and her agriculture. He mentioned the "dramatic improvement made in genetics which has led to the establishment of hatcheries producing the finest strains of poultry and in the breeding of ever-improving livestock and dairy animals."

He suggested that the increasing development of animal husbandry led by the German farmers and government has made it possible to provide improved foods with greater efficiency. "We believe that in joining together we can make a real contribution to this effort," he said. "It is our objective to be a sincere and effective partner with the farmers for the benefit of the entire country's economic welfare."

Chicks Placed in Principal Broiler Areas

(000's omitted)

Week ending	Maine	Conn.	Penn.	Ind.	Ill.	Mo.	Del.	Md.
August 6	1,132	497	796	773	99	719	1,657	2,109
August 13	1,175	412	721	672	98	750	1,607	2,071
August 20	1,117	398	733	664	104	679	1,740	1,757
August 27	1,091	441	688	645	97	625	1,738	1,858
September 3	1,073	353	798	588	92	627	1,741	1,825
September 10	1,066	400	667	654	104	719	1,573	1,995
September 17	676	364	600	588	118	603	1,572	1,973
September 24	1,008	473	695	610	120	650	1,442	1,894
October 1	1,068	433	529	581	102	615	1,552	1,903
October 8	1,037	358	778	589	48	643	1,429	1,838

Week ending	Va.	W. Va.	N.C.	S.C.	Ga.	Fla.	Ala.	Miss.
August 6	1,123	678	3,095	303	6,231	199	3,518	2,183
August 13	1,095	453	3,080	351	6,195	181	3,391	2,059
August 20	1,052	457	2,954	364	5,940	196	3,298	2,112
August 27	921	407	2,850	331	5,969	203	3,176	2,032
September 3	817	413	2,838	302	5,972	245	3,232	1,994
September 10	784	420	2,693	300	5,960	206	3,000	2,022
September 17	790	363	2,717	297	6,139	185	3,115	2,009
September 24	778	313	2,645	297	5,961	200	3,107	1,944
October 1	678	423	2,844	303	5,946	202	3,085	1,880
October 8	809	326	2,873	326	5,694	202	3,084	1,884

Week ending	Ark.	La.	Texas	Wash.	Oregon	Calif.	Total 22 areas 1960	Total 22 areas 1959
August 6	3,714	350	2,037	302	253	1,095	32,893	31,302
August 13	3,508	343	1,876	276	218	1,054	31,693	31,136
August 20	3,478	383	1,912	318	228	886	30,853	30,402
August 27	3,321	351	1,760	333	180	964	29,991	29,236
September 3	3,104	356	1,703	298	197	961	29,529	27,913
September 10	3,035	356	1,611	233	219	1,020	29,037	26,268
September 17	3,073	334	1,583	278	192	920	28,489	24,682
September 24	2,905	325	1,658	242	218	1,006	28,491	24,573
October 1	2,893	356	1,623	216	195	1,109	28,536	24,612
October 8	2,865	346	1,615	256	208	1,033	28,261	24,674

TEXAS

(Continued from page 6)

ments Dr. Davies noted that increasing calcium levels resulted in small but consistent decreases in egg output.

POTENTIATED ANTIBIOTICS—Dr. J. M. Pensack, American Cyanamid Co., Agricultural Division, Pearl River, N.Y., discussed the role of calcium in the potentiation of antibiotics. He said there were three methods which could be used: (a) Use of terephthalic acid and its salts, (b) control of dietary calcium, (c) substitution of calcium sulphate for calcium carbonate, and combinations of the acid with methods (b) or (c).

The potentiation of antibiotics, he said, increases their activity in preventing and treating experimental infections of coccidiosis, chronic respiratory disease and infectious synovitis in chickens.

The use of terephthalic acid is not approved at present by Food and Drug officials, he said.

ZINC IN PRACTICAL RATIONS—Dr. Ray Klussendorf, Commercial Solvents Corp., Terre Haute, Ind., gave a review of the value of supplemental zinc in various rations.

He pointed out several factors which cause variability in experimental results in feeding of zinc. One of these is the amount of zinc available in drinking water, a percentage that can be influenced by the galvanized water distribution equipment, feeding utensils or battery equipment.

He said that the requirements for farm birds and animals are higher than had been believed until recently, in fact so high that practical farm rations are often marginal and sometimes deficient in zinc. The optimum zinc requirements probably lie within the ranges from 45-55 (ppm) for young chickens and 20-35 for mature chickens; 65-80 for young turkeys and 40-55 for mature turkeys; 60-70 for young pigs and 40-50 for mature pigs. The range is provided because of variable availability of zinc from ration ingredients, drinking water and equipment, he said. There is little danger of toxicity from excessive amounts of zinc under practical conditions because the ration becomes highly unpalatable long before it becomes toxic.

POULTRY DISEASE CONTROL—Texas is experiencing a significant increase in the amount of fowl typhoid and pullorum disease, Dr. L. C. Grumbles, head, veterinary microbiology department, Texas A&M, told the conference. He listed two reasons for the increase: A faise confidence in the ability of drugs to eliminate infection from hatchery supply flocks and the withdrawal of many operations from the National Poultry Improvement Plan with subsequent relaxation of control programs.

"The only tenable attitude toward these two infections is complete eradication," Dr. Grumbles said. "Since the industry has indicated it will not pursue this goal under voluntary programs, the only approach left is compulsory state or federal regulatory programs."

The scientists said there is a real hope that an effective program for eliminating epidemic tremor will be available within a short time through a modified virus vaccine.

Dr. Grumbles said that at no time in the history of the poultry industry has there been more confusion and uncertainty about coccidiosis control than at present. Coccidiostats were expected to be the absolute answer to this problem. But it must be emphasized, he said, that the perfect one has not been found, and any

VAN DUSEN HARRINGTON
DIVISION
F. H. Peavey & Co.
GRAIN SOYBEANS FLAX
Founded 1852
MINNEAPOLIS DULUTH

CONFERRING — Discussing the proceedings of the Texas Nutrition Conference held at College Station, Texas, Oct. 5-7, are, left to right, Truitt Kennedy, president, Texas Grain & Feed Assn., Ft. Worth, and Dr. J. R. Couch, professor of poultry science and biochemistry and nutrition, Texas A&M College. Dr. Couch was chairman of the conference.

compound to be effective must be coupled with good management and sanitation. Presently available vaccines have a fundamental weakness in that they do not contain enough sporulated organisms to stimulate immunity, which means that the amount of exposure and the amount of immunity are at the whims of environment, he declared.

The poultry industry has gone through a period in which the answers to all disease problems were expected to be drugs provided in the feed bag. Poultrymen now should be ready to return to sound fundamental disease control programs based on known information about specific diseases, he said.

FIELD OBSERVATIONS OF THE POULTRY DIAGNOSTICIAN — Dr. Ernest F. Waller, veterinarian with the Sterling-Winthrop Research Institute, Rensselaer, N.Y., said that preventive measures are still best in holding poultry diseases to a minimum. Backing up Dr. Grumbles' statement, he said that something must be done to counteract the spread of fowl typhoid "and done soon." Dr. Waller gave a resume of the poultry disease situation in various areas of the country, saying that no one area appears to have the corner on this industry problem.

Dr. Waller said that it has been impossible to find any one program of vaccination against Newcastle disease or infectious bronchitis that has not run into trouble. Producers keep changing their programs to meet current situations.

In the Southeast, he said, the use of the coccidiosis vaccine in day-old chicks at the hatchery, which was started on a small scale last winter, has greatly increased and results have been very satisfactory.

In Arkansas, he related that some of the broiler producers are engaged in an involved program in an attempt to cut down the number of condemnations from CRD. Under this program the chicks are started on a feed of low calcium content plus 200 gm. per ton of an antibiotic. This is fed for two to two and one-half weeks. Then a regular feed containing a coccidiostat is used for about three weeks. This is followed by one more week of the high antibiotic feed. Then all medication is discontinued.

DISEASE, MANAGEMENT PROBLEMS—Dr. Bernard Koch, a veterinarian who operates Koch Laboratory, Gilroy, Cal., reported on disease and management problems of large poultry cage operations in that area. He stressed the importance of good management and the right type of supervisory personnel. There is a fundamental need for constant observation of the birds to detect conditions before they become a problem, he said.

The trend in the California area is toward cages of a 2 by 2 ft. size which permits easier handling of the birds when necessary. He said the principle of disease buildup suggests that large operations should be decentralized to make the problem more manageable.

FEEDING PROGRAMS FOR TURKEYS—Three of the talks concerned turkey nutrition. Studies in Minnesota have shown there is a slight advantage in growth rate and feed conversion by the use of prestarter during the first three weeks of a turkey brooder program, Dr. Elton L. Johnson of the University of Minnesota said. Maximum growth and feed conversion, however, are not always the most economical method of producing turkeys. Relationship of costs per pound of feed and returns per pound of turkey must be considered.

The growth period from eight weeks to maturity offers great opportunity for different feeding programs because of the reduced requirement of the turkey for nutrient concentration in the feed. The major types of feeding programs studied at Minnesota recently include (1) complete feed in mash form, (2) complete feed in crumble or pellet form, (3) free-choice of mash and grain and (4) restricted mash feeding.

Dr. Johnson said the heaviest turkeys have usually been produced with a pellet or crumble feed, which generally is more costly. Low-cost, readily available grains would encourage a grower to use either the restricted program or the free choice of mash and grain. The program used during the range period exerts the greatest influence on cost, he pointed out.

Dr. Johnson said that experiments have shown the desirability of a good source of unidentified factors in feeding turkey breeders and that fish solubles are a consistent source of these factors. Dr. Johnson told the group that additions of vitamin E in turkey breeder diets did not bring response in higher production, fertility or hatchability.

PROTEIN, AMINO ACIDS — The protein and amino acid requirements of growing turkeys are both a complex and controversial subject, Dr. Johnson said in a second talk at the conference. Variable results can often be explained by ingredient differences in protein sources.

Work in the Minnesota laboratories showed the need for supplementation with both lysine and methionine at protein levels in the range of 22-24%. Methionine was the only supplement needed at 28% protein, but this work also indicates lysine can be limited at 28% when energy and other nutrients are adjusted upward to permit increased growth rate. He said his recommendations for economic production of turkeys include only methionine as an additive because of the economy of increasing protein levels at the present time. He emphasized that turkeys can be grown on an economic basis with a 32% protein level in a prestarter for the first two or three weeks. This should be followed by a 28% protein ration which will suffice until the turkeys are approximately eight weeks of age. Methionine is a practical supplement during this early growth period, whenever soybean oil meal is the major source of protein.

NUTRITION OF THE TURKEY BREEDER HEN—Dr. T. M. Ferguson, associate professor, Texas A&M poultry science department, said that turkey breeder hen diet should be well fortified with fat soluble vitamins and the B-vitamin. Deficiencies of riboflavin, pantothenic acid, biotin, pyridoxine, B_{12} and niacin result in poor hatchability, he pointed out. Deficiencies of riboflavin, pantothenic acid and pyridoxine also result in low egg production. In recent tests, anemia was found to be a symptom of deficiency of B-vitamins, he said. Vitamin E shortage results in high embryonic mortality during the last week of the incubation period. Experiments have shown that unidentified factor sources added at 2.5 or 5% levels will improve hatchability of eggs.

LYSINE SUPPLEMENTATION — The use of lysine as a supplement for sesame oil meal and cottonseed oil meal in broiler diets was discussed by Dr. C. W. Deyoe of Texas A&M. Whether it will be practical to use a sesame protein source in broiler feeds must depend on the relative price and availability, he said. Mixtures of sesame oil meal and soybean oil meal, plus a lysine supplement, may be practical and should be investigated. Lysine deficiency of cottonseed meal can partially be corrected by high levels of supplemental lysine, he said, but it appears that this would not be practical. When cottonseed oil meal replaces as much as one-fourth of the soybean oil meal of the ration, supplementation of the diet with lysine results in gains comparable to those obtained with soybean oil meal as the only protein source.

LYSINE SUPPLEMENT FOR PIG RATION — Another investigation of the supplementation of cottonseed meal with lysine was reported by Fred Hale, professor in the Texas A&M College animal husbandry department. Dr. Hale discussed lysine as a supplement to a sorghum-cottonseed meal ration for growing and fattening pigs. He said the amount of lysine required to produce excellent results depended on protein quality of the cottonseed meal. Pigs receiving low-quality meal with lysine required 40% less feed per 100 lb. of gain than did the group getting the same ration without lysine. The growth rate of these pigs was increased by 500%. When high quality meal was fed, the growth rate was boosted 68%. If manufacturers are successful in reducing prices of commercial lysine feed supplements, then cottonseed meal and sorghum grain can be much more effectively used in swine rations, the scientist said.

FEEDING, MANAGING HOGS — Feed men attending the conference heard a wide variety of pointers in feeding and managing hogs for maximum profit from T. D. Tanksley, Jr., animal husbandman with the Texas Agricultural Service. He said the use of pasture is highly valuable for the breeding herd, but that savings are limited for feeder hogs. Good quality feeder animals can be raised on concrete with no pasture if nutritionally adequate rations are provided.

Mr. Tanksley recommended: Getting the maximum number of pigs farrowed and weaned, being sure gilts and sows are in good condition, providing two boar services per female, hand feeding during gestation, having sows farrow in individual quarters, giving pig starter feed at one week of age, weaning pigs at 6-8 weeks of age and feeding complete rations up to 50-60 lb. for top performance.

He said, "Watch pig comfort, ration and water supply in feeding hogs from weaning to market; keep animals cool. Feeding on concrete is most practical when land is flat and poorly drained, soil is heavy clay, and when land is more productive for crops."

The main problem on concrete floors, Mr. Tanksley also said, is getting rid of manure. Be sure there is adequate feed and watering space for hogs, and have the floor sloping a half to 1 inch for each foot of floor length or width.

The same amount of high quality protein supplement should be fed when using either corn or sorghum grain. When computing rations, use of 9% protein for corn and grain sorghum is recommended.

The soundest health program, the speaker said, is one of prevention. Disease usually is introduced into a herd through purchased animals. Isolate new hogs for 30 days. When going into business for the first time, buy animals from one place. From then on, raise female replacements.

Housing should be constructed in keeping with weather conditions. In Texas, a house ought to have doors on all sides which can be raised in hot weather.

FEEDING FOR GREATER REPRODUCTION — Although the female reproductive tract in swine is sensitive to many influences, the most likely to affect the majority of gilts and sows is feeding, Dr. R. H. Grummer, University of Wisconsin, said. The speaker said inheritance has a relatively mild effect on litter size, accounting for only about 15% of the variation in number of pigs farrowed. Environment is responsible for the remaining 85%.

He said recent investigations have shown that a gilt's ovulation rate and survival of embryos during early pregnancy is largely responsible for determining the number of pigs farrowed. Yet, little is known about specific nutrients and their association with egg production and embryo survival.

In other trials, researchers observed that limiting the intake of feed to 70% of a full feed for gilts from 70 days of age to 25 days of gestation had a depressing effect on ovulation rate and a stimulating effect on embryo survival. Another experiment demonstrated that self-fed gilts ovulated an average of 15.1 eggs and farrowed 4.7 live pigs, whereas limited-fed gilts ovulated 13.4 eggs and farrowed 7.4 hogs on the average, Dr. Grummer said.

Swine growers, he said, need to boost litter size to keep the hog competitive with other meat producing animals. More pigs farrowed and raised per sow will allow a larger production of hogs, which in turn can be made available to the consumer at a more favorable price.

FEEDING FOR CARCASS IMPROVEMENT — Dr. Grummer also discussed feeding of hogs for carcass improvement. He said there had been a lack of interest shown in investigating feed formulas that might influence carcass characteristics because these traits are of high heritability and therefore rapid advancement can be made by careful selection of breeding stock, because differences in carcass value are not economically important since buying agencies do not adequately differentiate between good and poor quality at the market.

Dr. Grummer said it has been demonstrated frequently that restricting the amount of feed to less than a full feed improves the fat-to-lean ratio. Although this is done extensively in Europe, it has not become popular in this country because of the labor that is required in hand feeding. Dr. Grummer said that limited feeding can be accomplished by the use of the self feeder, if liberal amounts of high fiber ingredient are included in the feed mixture, but this method has proved to be impractical because of the adverse effects on rate of gain, feed conversion and total yield. Limited feeding should be continuous or during the latter part of the finishing period to reap beneficial results, he said.

There are conflicting reports concerning the effect of protein on leanness of carcass. The experience of Wisconsin workers has been that the level of protein does affect the fat-to-lean ratio if the differences in protein level are marked. Similarly, carcass studies of hogs fed rations with and without antibiotics have shown great variation in results pertaining to fat-to-lean ratio. At Wisconsin relatively little difference has been shown.

Confinement feeding of hogs increases the fat-to-lean ratio as compared to hogs reared on range. There are many who believe that the meat type hog lacks muscle quality, Dr. Grummer said. Certain packers report that the incidence of low quality pork is increasing and that the problem of processing and curing might become serious.

Work at Wisconsin has demonstrated that certain pork quality factors can be affected adversely and beneficially by supplementing sucrose to the ration and by exercising the animal, respectively, prior to slaughter.

Other talks from the Texas Nutrition Conference will be summarized in the next issue of Feedstuffs.

MARKETS

(Continued from page 2)

lowest point at around 14½¢ lb. f.o.b. the farms. Chick placements for the last several weeks have shown very little fluctuation. Cattle and hog feed business is showing slight improvement each week due to better prices.

New crop corn is beginning to come on the market in volume with prices ranging from $1.15 to $1.22 delivered to most of the major feed manufacturers' plants, depending upon location.

Rains in Georgia, North and South Carolina areas have slowed down the movement of cotton seed to the oil mills, and heavier demands by the ginners upon the oil mills for cottonseed meal and hulls, has resulted in practically no offerings from the oil mills, causing prices to advance as much as $4 per ton. However, with slower demand in the Mississippi Valley, prices have remained practically unchanged, although mills are only content to offer meal for shipment within the month.

Pacific Northwest

Oregon, Washington and Idaho mixers this week reported a steady movement of manufactured feeds, with dairy and egg rations still listed as the leading sellers.

Alfalfa hay listings were generally unchanged at Portland and Seattle. Reports from some Pacific Northwest producing districts indicated that there was a little less reluctance on the part of some buyers to pay going prices, with other trade sources indicating that there seems to be a seasonally quiet trading period.

Feed ingredient prices were generally steady during the week, although soybean on a nearby basis showed weakness, along with corn and milo, as the harvest of these items expanded through the country.

Millfeed quotations carried a stronger undertone at Portland and Seattle in front of decreased production and trade rumors that Japan was expected to soon be on the market for volume purchases.

South Central

There has been no important change in formula feed demand this week. Feed manufacturers describe business at the dealer level as being steady or possibly a shade heavier than last week. But dealers say they are having a slow week and think that it is because farmers are in a rush to get on with their fall field work while the good weather lasts. Besides, there is an abundance of new corn in feeders' hands, just waiting to be fed.

A number of feed manufacturers in the area were offering "specials" on hog feeds this week in addition to their cattle feed booking plans. There is a fairly good response to the "specials." Pipe lines are nearly empty, and the inducement is large enough to promote a little stocking up. Some cattle feed is moving, too, along with a good amount of egg feeds.

But credit, in many cases, is reported to be limiting the amount of buying being done.

FEED BUYING

(Continued from page 1)

self. The report said the complaint about feeds mentioned most often was "too high prices," but, except for higher - income, bigger - purchasing farmers, most farmers seldom or never made price comparisons between feeds or dealers.

The factor most often mentioned in selecting a dealer was his location. In mileage terms, it was found that 90% of the farmers traveled 10 or less to their dealer. The location of the dealer with respect to the community was more important, however. Almost all of the farmers combined feed purchases with other shopping so that it was considered desirable to have other businesses and services available in the same community.

One of the most important influences on feed buying practices is the local dealer. Only a few purchased part of their supplies directly from manufacturers or others. The farmers usually purchased formula feed from only one dealer and tended to trade with that dealer for long periods of time.

The local dealer also provided a centralized shopping point for the farmer. Nearly three-fourths of the farmers sold some produce through the dealer and 85% bought production supplies other than feed from the dealer. The most popular items purchased were seed, fertilizer, and farm chemicals.

Another influence on formula feed buying was branded feeds. It was found in this study that while brand-name feeds are important, they are closely related to the dealer selling a particular brand. The dealer, however, seemed to have primary importance over the brand.

The farmers expected the dealer to provide more than formula feeds. They considered several feed-related services as much a part of the feed as the ingredients. Such services as credit, milling, delivery, and feed information were so important that 40% of the farmers stated they would not patronize a store if a particular service or services were not available.

In ranking services in order of importance it was found that credit, feed milling, and feed information were most often selected as first choice. The least desired services were feeder contracts and feeder meetings.

One of the most popular services performed by the dealer is the dissemination of feeding information. The dealer is the prime source of such material for a third of the farmers. The next most important sources are magazines and newspapers. Most of the information is passed on at the time sales are made and the farmers indicated that this is preferred to farm visits by the dealers.

The 50-lb. paper bag was the most commonly purchased bag type although a fourth of the farmers still buy feed in the 100-lb. bag. Many of the farmers indicated that dated feed would be desirable even though none were particularly concerned over the freshness of their feed supplies.

Only 29 of the farmers were using bulk-feed handling methods at the time of the survey. Twenty-five farmers had definite plans to change over to bulk feed and another 21 were considering it. The main reason given for not using bulk feed was that it was not available from their dealer.

Those farmers who did use bulk feed said they did so mainly to take advantage of lower feed costs. There was little evidence that any changes were made in feeding plans or equipment to complement the use of bulk feed. Thus, it was said, these farmers have failed to take advantage of some of the labor saving and cost reducing aspects of bulk feed handling.

In general, all of the farmers were satisfied with the formula feed supply available and the condition of that supply. Future purchasing plans varied. About two thirds of the farmers intended to remain at their present buying levels, a fifth planned to increase, and the rest planned to decrease formula feed purchases.

The complaint most often mentioned about formula feeds was that the prices were "too high." It was found, however, that many farmers never made price comparisons between feeds or between dealers during the year. Of those who did compare prices, more than half checked less than every other month even though the majority purchased feed at least once a month. Thus, while farmers were concerned about feed prices they did not actively follow price changes. On the other hand, farmers who bought large quantities of feed and those with higher gross farm incomes tended to follow prices more closely.

The results of this study have been published as Agricultural Economics Report No. 90. The title is "Farmers' Preferences for Formula Feeds." Copies are available from the Kansas State University Distribution Center, Manhattan, Kansas.

INDEX OF ADVERTISERS

The index of advertisers is provided as a service to readers and advertisers. The publisher does not assume any liability for errors or omissions.

Abbott Laboratories .....
Aeroglide Corp. .....
Albumina Supply .....
Allied Chemical Corp., Nitrogen Div. .....
Allied Mills .....
Amburgo Company 21
American Cyanamid Co. ..32, 33
American Dehydrators Assn...
American Elev. & Grain Div...
Anderson Box .....
Anderson, V. D., Co. 20
Arbor Acres Farm 50, 84
Archer-Daniels-Midland Co., Alfalfa Division 102
Armstrong, O. B. .....
Aubrey Feeds 19

Babcock Poultry Farms .....
Baker, H. J. .....
Barnard & Leas Mfg. Co., Inc. 95
Barrold Chemicals, Inc., Subsidiary of Natl. Lead Co...
Bartlett, C. O., & Snow Co...
Baughman Mfg. Co., Inc. ...
Baxter, A. E., Engineering Co.
Beardstown Mills Co. .....
Bemis Bro. Bag Co. 25
Berg, Paul .....
Black, Sivalls & Bryson, Inc...
Blomfield-Swanson .....
Blatchford Calf Meal Co. 83
Borden Co. 75
Bowman Feed Prod. 77
Branco Alfalfa Milling 61
Brower Manufacturing Co. 82
Brown, Jeff D., & Co. .....
Bryant Engineering Co. 34
Burlap Council .....
Burrows Equipment Co. 97
Butler Chemical Co. 87
Butler Mfg. Co. 48, 49

C-K Processing Co. 98
Calcium Carbonate Co. ....
California Pellet Mill Co. ... 72
Caple, A. B. .....
Cardinal Scale Mfg. Co. ....
Carey Salt 30
Champion Portable Mill Co... 46
Chase Bag Co. 16
Checkerboard Grain Co. 62
Chick-Master Incubator Co...
Clinton Corn Processing Co...
Clofine, Herbert K. 65
Clupak, Inc. 81
Collier Livestock-Feeder Co...
Columbia Phosphate Co. ....
Columbia Quarry Co. .....
Columbian Steel Tank Co. .. 89
Commercial Solvents Corp... 9
Consolidated Blenders, Inc... 101
Consolidated Quarries Div., The Georgia Marble Co. ..
Cooper, O. A., Co. .....
Corn Products Sales Co. ..18, 80
Credit & Financial Mgrs. Assn.
Custom Millers Supply Co. ... 40
Czarnikow Rionda .....

Daffin Mfg. Co. .....
Dannen Mills, Inc. 60
Darling & Co. .....
Davies, Wm. E., Co. .....
Davis Enterprises .....
Dawe's Laboratories, Inc. ... 27
Day Company, The 73
Daycom, Inc. 78
Deere, John, Co. 63
Delaware Poultry Laboratories
Devold, Peder, Oil Co. .....
Diamond Alkali Co. 88
Diamond V Mills, Inc. .....
Distillation Products Industries 29
Distillers Feed Research Council .....
Doane Ag. Service .....
Dodgen Industries 15

Dorn & Mitchell Laboratories
Doty Lab. .....
Douglas Chemical Co. 14
Dow Chemical Co. 42, 43
Duplex Mill & Mfg. Co. 60
Du Pont de Nemours & Co., Inc., E. I. .....

Eastman Chemical Prod., Inc. 82
Ehrsam, J. B., & Sons Mfg. Co., The .....
Elanco Products Co. 47, 85
Eriez Mfg. 84
Eschenheimer, Rudy, Co. ....
Ewing, Ray, Co. 81

Fairfield Eng. .....
Fischbein, Dave .....
Fitzpatrick, U. E., & Co. ....
Flavor Corp. of America ....
Food Mach. & Chem. Corp... 74
Forstar Mfg. Co. 69
Fox Co. 31
Fruen Milling Co. 73
Fuller Co. 70

Gerber Sheet Metal, Inc. ...
Grain Belt Supply Co. .....
Grain Processing Corp. 71
Gump, B. F., Co. 92

Hall Distributor Co. .....
Hand, Peter, Foundation 3
Harris Laboratories, Inc. ....
Haugen, W. D., Co. .....
Hayes & Stolz Ind. Mfg. Co.
Heil Co., The .....
Helm Mfg. Co. .....
Henke Mfg. Co. .....
Hess & Clark, Inc. .....
Heterochemical Corp. 45
Hilltop Lab. .....
Hoffman-Taff, Inc. 77
Hogenson Const. Co. .....
Hogg, N. D., Ltd. .....
Holt Products .....
Honeggers' & Co. 12
Hooker Chemical .....
Howes, S., Co., Inc. 31
Hubbard Milling Co. .....
Hubbell, Charles H. 16
Hy-Line Poultry .....

Ibberson, T. E., Co. .....
Illinois Soy Products Co. ....
Industrial Processes, Inc. ....
International Erectors .....
International Minerals & Chemical Corp. .....
International Salt Co., Inc....
Iowa Limestone Co. .....

Jackson, Gilbert, Co., Inc...
Jacobson Machine Works 83
Jersee Co. .....

K. & G. Sales Co. 97
Kansas City Millwright Co. ..
Kansas Soya Prod. Co., Inc... 24
Kees & Company 72
Kellogg Co. .....
Kem Mfg. Co. .....
Kent Feeds .....
Kent, Percy, Bag Co., Inc....
Keystone Steel & Wire ....
Kindstrom-Schmoll Co. .....
Kraft Bag Corp. 21
Kraft Foods Co. .....

LaBudde Feed & Grain Co... 89
Landers Mill Mfg. Co. 90
Land O'Lakes Creameries, Inc.
Lauhoff Grain Co. 92
Leach Mfg. Co. .....
Limestone Products Corp. of America 59
Loncala Phosphate Co. ....
Longhorn Engineering Co. ....

McCabe Grain Co., Ltd. ....
Magnet Cove Barium Corp...
Magnus, Mabee & Reynard..
Maney Bros. Mill & Elev. Co. 102
Marine & Animal By-Products Corp. .....
Master-Bilt Refrigeration Mfg. Co. .....
Mayo Shell Corp. 84
Merck & Co. 5
Mid-Continent Grain Co. 20
Mid-States Construction Co...
Midwest Alfalfa Blenders, Inc. 74
Midwest Dried Milk Co. ....
Milbrew Co. .....
Miles Chemical Co. .....
Miller High Life Grain Co...
Miller, Mel, & Co., Inc. ....
Miller Publishing Co., The ...
Minneapolis Sewing Machine..
Minnesota Linseed Oil Co. .. 80
Minute Maid Corp. .....
Monsanto Chem. Co. .....
Morton Chemical Co. 38, 39
Morton Salt Co. 41
Myers-Sherman Co. 65

Nagel, Herman, Co. 89
Natl. Alfalfa Dehydrating & Mlg. Co. 106
Natl. Distillers Prod. Co. ...
National Molasses Co. 38
National Oats .....
National Renderers Assn. ....
Nellis Feed Co. .....
New Bedford Fish Prod. Co...
New Century Co., The .....
New England By-Prod. Corp...
Nichols, Incorporated .....
Nootbaar, H. V., & Co. .....
Nopco Chemical Co. 95
Noramgrex Co., The .....
North American Trading & Import Co. .....
North Carolina Granite 19
Northern Biochemical Corp...
Nor-Vell, Inc. .....
Nutrena Mills .....

Olavarria & Co. .....
Oyster Shell Corp. 83
Oyster Shell Prod. Co. 82

Pabst Brewing Co. .....
Panogen Co. .....
Paper, Calmenson & Co. 39
Parks, J. P., Inc. 102
Parrish & Heimbecker 78
Parrish, N. K. .....
Paxton Processing Co. 97
Pay Way Feed Mills, Inc.....
Peavey, F. H., & Co. 103
Penick, S. B., & Co. .....
Peterson Breeding Farm 94
Pfizer, Chas., & Co., Inc...36, 37
Phelps-Dodge Refining Co. ...
Pilch's Poultry Breeding Farm
Pittsburgh Plate Glass Co. ..
Piass, Joe N., Co. 92
Pockman Mfg. Co. .....
Pope Testing Lab. .....
Poultry By-Products 61
Prater Pulverizer Co. 13
Productive Acres Mfg. Co. .. 11
Professional Feeds Div. .....
Publicker Industries, Inc. 85

Quaker Oats Co. .....

Ralston Purina Co. 67
Rapids Machinery Co. 44
Raymond Bag .....
Read, Gladwin .....
Red River Alfalfa Co. .....
Reliance Feed Co. .....
Richardson Scale Co. .....
Riley Feed Co. .....
Riza Mfg. Co. .....
Roskamp Huller Co. .....
Ross Machine & Mill Supply, Inc. 97
Ross Mfg. Co. .....
Ryde & Co. .....

St. Regis Paper Co. .....
Salsbury's, Dr., Labs. 51-58
Schanley Distillers, Inc. ....
Schutte Pulverizer Co., Inc....
Scott Paper .....
Screw Conveyor Corp. 89
Seagram, Joseph E., & Sons, Inc. .....
Seco, Inc. .....
Sedberry, J. B. .....
Seedburo Equipment Co. 18
Shanzer Mfg. 80
Shelby Mfg. .....
Shellbuilder Co. 26
Sievert, C. W. .....
Simonsen Mfg. Co. .....
Sioux Prod. .....
Small, The W. J., Co. 102
Smith, A. O., Corp. .....
Smith-Douglass Co., Inc. 35
Sohio Chemical Co. .....
Southwest Mill Supply Co. ..
Specifide, Inc. 12
Spencer Kellogg & Sons, Inc.
Sprout, Waldron & Co., Inc. 22, 23
Squibb, E. R. 79
Stabilized Vitamins 86
Standard Brands, Inc. ..34, 46, 61
Stearns Magnetic Products ..
Sterwin Chemicals, Inc. 74
Stone Mountain Grit .....
Strong-Scott Mfg. Co. .....
Sudenga Industries .....
Sunset Feed & Grain Co. 80
Superior Boiler Works .....
Superior Co. .....
Superior Feed Co. .....
Sutorbilt Corp. .....
Swanson, Carroll, Sales Co... 28
Syntha Lab. .....

Taste Engineering Co. 7
Texas Mill Equipment Co. ....
Thompson-Hayward Chem. Co. 46
Tobias Enterprises .....
Toledo Scale .....
Toxite Laboratories .....

Ultra-Life Laboratories, Inc... 91
Union Bag-Camp Paper Corp.
Union Special Machine Co. ..
U. S. Industrial Chem. Co. .. 19
Universal Hoist Co. 26

Van Dusen Harrington Co. ...
Ventress, Chas., Farms, Inc... 17
Vineland Laboratories, Inc. .. 40
Vineland Poultry Lab. .....
Vit-A-Way, Inc. .....
Vitren Corp. .....
Vy Lactos Laboratories, Inc...

W-W Grinder Corporation .. 86
Wallace & Tiernan Inc. ....
Warren-Douglas Chem. Co. ..
Weitz-Hettelsater Engineers .. 83
Wellens & Co. .....
Wells, Ralph, & Co. .....
Wenger Mixer Mfg. Co. 77
Wertz Feed Products .....
Western Condensing Co. 16
Western Yeast Co. 59
West Virginia Pulp & Paper Co. .....
White Shell Corp. .....
Whitmoyer Laboratories, Inc.. 42
Wilhoit Laboratory .....
Wilson & Co. .....
Wilson, R. S., Co. 81
Wirthmore Feeds .....
Wyatt Mfg. .....

Young, John .....
Younglove Const. Co. .....

This is the Year to STEP UP the *Quality* of Your Feeds!

Everything is UP . . . but the Fibre

in **NATIONAL'S**

Hi-N

18% DEHYDRATED ALFALFA

MORE Vitamin A *(additional 25,000 I.U./lb. on delivery)*

MORE Pigmentation

LESS Fibre (only 23%)

MORE Vitamin K

MORE Digestible Protein (18%)

MORE Metabolizable Energy

MORE of 10 Important Minerals

MORE Xanthophyll *(additional 30,000 mcgs./lb. on delivery)*

MORE of 10 Essential Amino Acids

MORE Unidentified Factors *for Growth, Fertility, Hatchability*

MORE Care in its Manufacture

Nutritionists now recognize the importance of higher energy, higher efficiency feeds. To meet this market demand, step up the quality of your feeds by switching to the critical ingredient of proven higher quality — NATIONAL Hi-N Dehydrated Alfalfa. All the nutritional advantages of this natural ingredient will be yours for only *6¢ more per Ton on your Finished Feed!* (figured at 2% level in feeds)

WE ARE NOW BOOKING WINTER REQUIREMENTS
MAY WE QUOTE YOU?

NATIONAL

"The House of Higher Quality"

NATIONAL ALFALFA DEHYDRATING & MILLING CO.

GENERAL OFFICES: 4010 WASHINGTON, KANSAS CITY 11, MO.

Gas Storage Facilities Located at: INDEPENDENCE, KANS. • LAWRENCE, KANS.
TOLEDO, OHIO • MEMPHIS, TENN. • BLAIR, NEBR. • GARDEN CITY, KANS.
BIG BEND, COLO. • LEXINGTON, NEBR. • PLAINVIEW, TEX.